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# *The Journal of the*
# CANADIAN DENTAL ASSOCIATION

# *Le Journal de*
# L'ASSOCIATION DENTAIRE CANADIENNE

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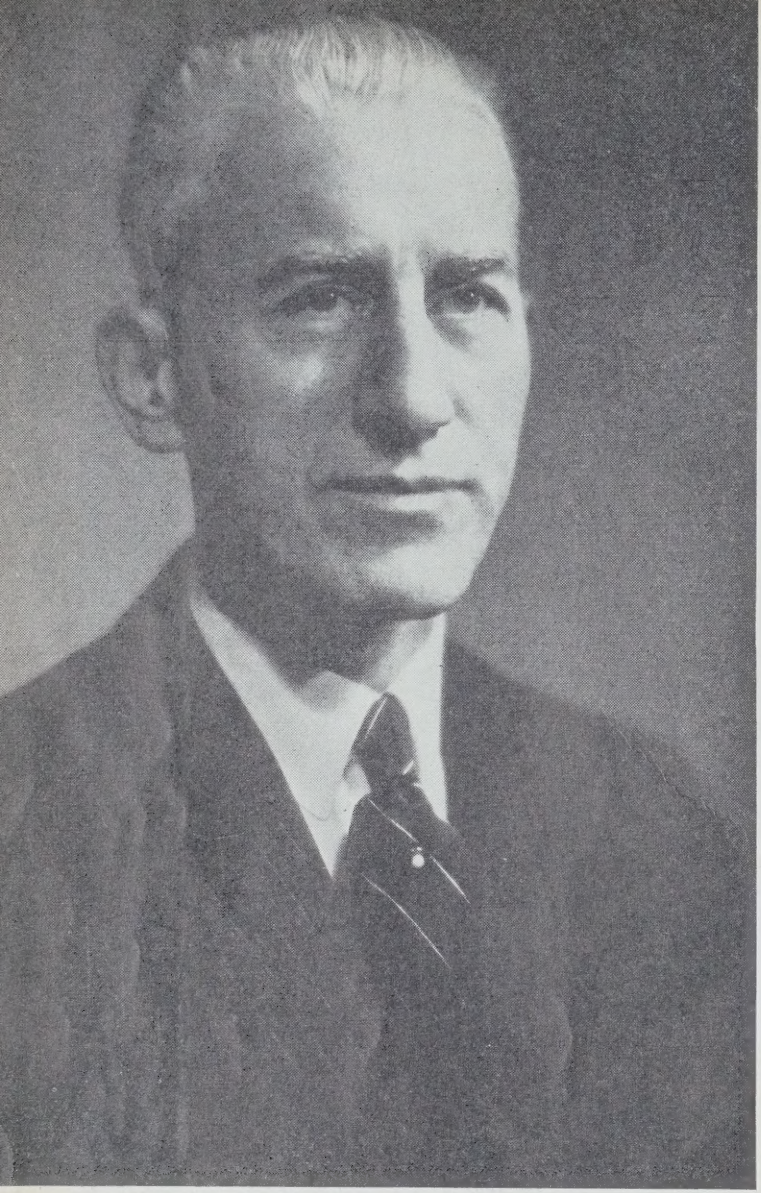


J. N. STEWART, D.D.S.
Hamilton, Ontario
President of Ontario Dental Association.

The Journal
OF THE CANADIAN DENTAL ASSOCIATION

VOL. 5 TORONTO, JANUARY, 1939 NO. 1

# *Incidents from a Medical Fairy Tale* *

by WILLIAM A. DAFOE, M.B., F.R.C.S. (C), M.C.O.G. (Eng.), Toronto, Ontario

IN PRESENTING a short paper this evening on certain incidents in the life of the Quintuplets, I am attempting to substitute for my brother. I would like here to pay tribute to him, the man who has made possible the telling of this story. No one knows better than I of the worries and anxieties which resulted in sleepless nights during the early days and weeks when the tiny sparks of life were barely glowing in the bodies of these premature children. His early training and his many years of lonely practice made him, from necessity, take counsel with himself, and for a time his life was made difficult by the blinding glare of incessant publicity. His strongest purpose of mind has been, and is now, to look after the situation in Callander, with its many ramifications, both medical and otherwise, in such a way, that it will not detract from the dignity of a great profession of which he is proud to be a member. Truly his ambition has been accomplished and subsequent events have opened up for him a wonderful new vista of life with its associated happiness.

The whole history of the care of the babies casts a most excellent reflection on the ability of the general practitioner. He is constantly meeting unusual situations, and handling them in such a way, that considerable credit is brought to the whole profession.

Callander is situated in a French Canadian Settlement on the east shore of Lake Nipissing, 200 miles north of Lake Ontario. It was first visited by a party of white men in 1615, with Champlain in command. He voyaged up the Ottawa River, along the Mattawa to Trout Lake, and then portaged across the height of land just south of North Bay to reach Lake Nipissing. From there he went down the French River to Georgian Bay and then across the Kawartha Lake chain to reach Lake Ontario. For some reason Champlain returned to Montreal by the same route, rather than follow the waters of Lake Ontario and the St. Lawrence River. About 60 years later, Joliet and Marquette crossed from the Ottawa River to Lake Nipissing and down the French River to Georgian Bay. This northern route was used for commercial intercourse between the French on the St. Lawrence and the Algonquin and Huron Indians, because it was more direct and less exposed to the winds of the Great Lakes. Later on The Hudson Bay Company used this same waterway for trading purposes.

The French Canadians first came to this area over a half century ago, follow-

* Presented at the Annual Meeting of the Canadian Dental Hygiene Council. Reproduced by kind permission of the Author and the Council.

ing the lumbering activities of that time. Some of those men took land there, sent for their families, and cleared up little farms and thus eventually a new settlement arose. The land is rather rocky with only patchy fertile areas, but its many beautiful lakes and rivers offer ideal camping places for the summer. The French Canadians are descendants of forefathers who have lived in Canada for over 300 years, and are of the same type of people who have been so beautifully portrayed by Louis Hémon in his book, "Maria Chapdelaine."

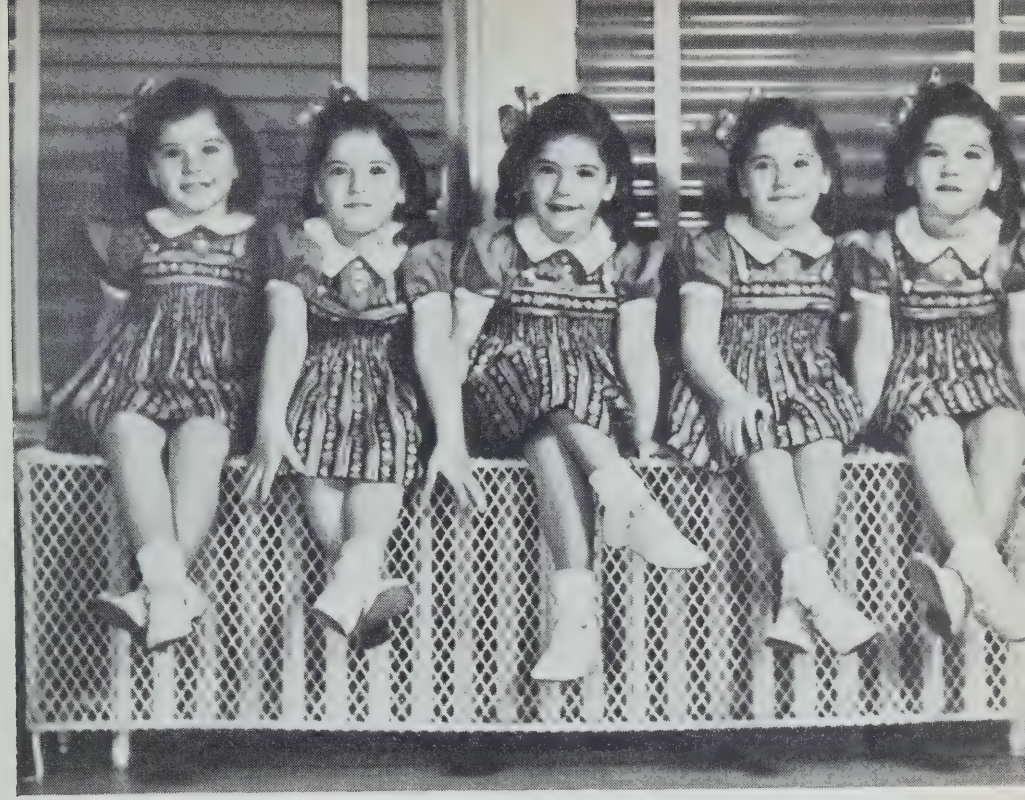
My brother, with his practice led a very peaceful and quiet life in the years B.Q. (Before Quints) but on May 28th, 1934, one of the most unusual events in all medical history took place, and his peaceful existence was completely shattered; five premature babies were born to one mother at the Dionne home and the whole world soon heard about it. The parents of these children were honest, hard working people, farmers by occupation and were good citizens of that country. It is not difficult, I am sure, to realize some of the troubles that have followed in the wake of the tremendous publicity associated with the survival and growth of these children. Along with the overwhelming number of helpers and well wishers, there have been also "The Parasites" who saw wonderful opportunities of making money and the head lines for themselves out of this unique event. The parents have had a trying time and it is very difficult for them to distinguish the difference between the real and pseudo friends.

Quintuplets are a biological freak of nature and are said to occur once in about 60 million births. Multiple pregnancies are not unusual up to triplets, and modern medical research has limited the greatest number at six, although ancient medical books are filled with imaginative reports in regard to large numbers at birth. In the last two hundred years there have been 60 cases of Quintuplets reported, but no doubt there have been others not reported, as we have heard of two cases which are not included in this list.

The only available data as to previous multiple births in the Dionne family shows that on the wife's side, there were three sets of twins amongst her first cousins. The husband's family produced two sets of twins, but in distant cousins.

The theories of the biological origin of multiple embryos are very interesting, but to anyone except a specialist, they are most difficult to understand. They either come from one egg (identical) and consequently the young are all of the same sex and look alike, or, they come from more than one egg (fraternal) and may or may not be of the same sex, and do not look alike more than any two members of the same family.

The presence of accessory breast tissue with miniature nipples occasionally found on the chest and abdominal wall, is taken as evidence by some that the human female during the process of evolution, passed through a stage in which she had more than one young at a single birth. Then again, there have been some very interesting experiments done on one-celled animals after fertilization has occurred. It has been found possible to separate the segmentation cells of the products of fertilization, by changing the constituent parts of the surrounding media with certain chemical substances. The most acceptable explanation, however, is based on the theory of budding. In this theory, the Armadillo, a vertebrate animal of Southern America, is used as a comparison. This animal has a single fertilized cell, but it regularly provides up to four embryos. Segmentation of the fertilized egg occurs and in the morula stage because of some unknown reason, condensation areas occur in the inner cell



THE DIONNE QUINTUPLETS
From left to right—Annette, Cecile, Emelie, Marie, Yvonne.
*"World Copyright, 1938, Nea Service, In."*

mass and multiple embryos are produced from these areas.

The Dionne Quintuplets are identical in origin and further investigation has borne out this fact. They received their nourishment before birth from a common placenta and are all of the same sex. They look alike and have the same colour of eyes, hair and skin and all belong to the same blood group. The fixed body characteristics such as finger, palm and sole prints are much more alike than any similarity amongst the other children, and there are certain other common characteristics present which are different from their brothers and sisters.

The children's home is now situated across the road from the little farm house where they were born, and they live in a fully equipped comfortable residence containing all the modern conveniences. At one side of the children's house or main building, is the observation playgrounds structure. Here the general public may watch their play (through glass and a fine screen) from a protected corridor. On the other side of the central building, there is a comfortable duplex structure for housing certain members of the staff. Electricity is brought by a special line from the main highway. The water supply is obtained from a 68 foot drilled well, about 30 feet north-east of the nursery. The sewage from the Staff House and Children's home is carried to the septic tank forty yards north-west of the main house. From there the drainage continues to a well tilled field still further away.

The permanent staff consists of nine members, three children's attendants, three policemen, one housekeeper and two maids. The children's attendants are responsible for the care and training of

the children and for carrying out plans laid down for their early education. They are also responsible for the upkeep of a careful record system pertaining to their health and development.

### Guardianship

The Dionne Quintuplet Guardianship Act, which placed the children under the control of The Crown, and appointed a guardianship for them until they reached the age of 18, was amended in April, 1937. This Amendment to the Act, provided for the appointment of The Official Guardian of Ontario as one of the guardians, in place of The Minister of Welfare. There are three other guardians, the father, Judge Valin, a retired Jurist of North Bay, and Dr. A. R. Dafoe.

### Financial Arrangements

The income of the children is derived from contracts for motion and still pictures, and for endorsements of products used in their home. Every contract must have the complete approval of their medical advisor and guardian, and is subject to his interpretation of the possible effect on their physical and mental health. By an Order in Council of the Dominion Government, the use of the words, Quins, Quints or Quintuplets and their French equivalents, is forbidden for advertising purposes without the permission of the Guardians.

The present invested financial holdings of the Guardianship held in trust for The Dionne Quintuplets, is approximately one-half million dollars. This amount includes the property value ($60,000) of their estate. The capital is invested in Government Securities. The income from this capital is used to meet the expenses which amount to about $1,800 per month.

### General Care and Daily Life

Carefully observed regularity has been the essential principle followed in the general care of these children. They sleep, eat and play at regular hours and nothing is allowed to interfere with this routine. "Early to bed and early to rise" has been the rule in the nursery. In this, their fourth year, after arising and being dressed, they receive their orange juice and then their breakfast. Their play period follows breakfast and during this time, they are given interesting playthings, and occupations are suggested which allow them to use their little imaginations. The nurses are instructed to allow them as much freedom as possible with as little restraint as necessary. Before lunch, they have music, songs and group play for fifteen minutes followed by a short rest on mats. In the afternoons they play outside again after their sleep. They are bathed just before supper, which is served at 6.00 p.m. They are then undressed and short simple stories are read to them, after which they say their prayers before being tucked into bed. The children are fortunate in having extensive wardrobes. Each one owns a complete ensemble which will suit the contingencies of any kind of weather, and when well they seldom miss their outside play periods. Their house clothes are light in weight and colour throughout the year. The changing seasons and weather control the arrangements for their outside clothes. Cotton garments are always worn next to their bodies and woollens are added as the weather becomes colder. They wear socks in the summer and stockings in the early spring, fall and winter. The children are encouraged to hang up their clothes and put away their shoes in their individual cupboards. They are also encouraged to help themselves in the act of dressing. Their teeth are brushed twice a day and "pretend visits" to the dentist are carried out at intervals, so as to prevent any fear of the dental chair with its inevitable drill when the time comes for attention. There is a portable dental outfit in the home, and one of the nurses

makes use of this, acting in the role of a dental surgeon. The daily routine also includes caring for the hair, nails and cleansing their hands and faces. Their reactions to these various procedures do not differ in any way from those produced in other children. *Elimination Training* required considerable attention and patience but these habits reached a stage of regularity when they were 2½ years old. The children are picked up every night at 9 o'clock, and bed wetting has been a rare occurrence during the last year.

have appeared to be normal with two exceptions. These exceptions were both associated with Marie. She was found to have a small haemangioma at birth which kept growing fairly rapidly until it reached the size of a 50c. piece. The tumour was treated three times in one year, at six months intervals, with radon tubes. The radium emanations were applied by Drs. Howard and Edmund Kelly, Baltimore, Md. Dr. Rolph of The Hospital for Sick Children, Toronto, kindly made an uncomfortable trip in

DEVELOPMENT OF QUINTUPLETS

| Average | Weight Lbs. oz. | Height inches | Head inches | Chest inches | Wrists inches | Ankles inches |
|---|---|---|---|---|---|---|
| Quints at birth | 2 lb. 11 oz. | 13 | 10½ | 8½ | 1½ | 1½ |
| Quints at 3 yrs. | 30 lb. 8 oz. | 31½ | 19½ | 21 | 4½ | 6 1/3 |
| Normal 3 yrs. | 30 lb. 5 oz. | 35.2 | 19 | 19.8 | ..... | ..... |

PHYSICAL DEVELOPMENT

In spite of their prematurity at birth, these children have rapidly progressed in their physical development so that at the end of three years, with the exception of Marie, they have reached or exceeded the normal levels for weight and height.

Their general physical characteristics during their first three years of growth,

mid-winter to take x-ray films for further information. At the same time, films of the children's wrists were taken. The hip joints were found to be normal and it wasn't long before Marie was toddling around like the others. The x-ray of the wrists showed a slight line of density at the metaphysis of the radius and ulna which was probably the result of the anti-rachitic diet that the children received.

ERUPTION OF DECIDUOUS DENTITION
AGE IN MONTHS

| | ANNETTE | EMELIE | CECILE | YVONNE | MARIE | QUINT'S APP. AVERAGE ERUPTION | MAXIMUM NORMAL ERUPTION.* |
|---|---|---|---|---|---|---|---|
| **RIGHT UPPER** | | | | | | | |
| CENTRAL INCISOR | 13 | 14 | 13 | 12 | 14 | 13 | 8 |
| LATERAL INCISOR | 16 | 18 | 15 | 17 | 15 | 16 | 10 |
| CUSPID | 25 | 27 | 26 | 24 | 24 | 25 | 20 |
| FIRST MOLAR | 20 | 21 | 21 | 20 | 20 | 20 | 16 |
| SECOND MOLAR | 36 | 36 | 36 | 38 | 37 | 36 | 30 |
| **RIGHT LOWER** | | | | | | | |
| CENTRAL INCISOR | 14 | 15 | 11 | 14 | 13 | 13 | 8 |
| LATERAL INCISOR | 16 | 17 | 14 | 17 | 15 | 16 | 10 |
| CUSPID | 23 | 25 | 23 | 22 | 23 | 23 | 20 |
| FIRST MOLAR | 18 | 20 | 19 | 30 | 18 | 21 | 16 |
| SECOND MOLAR | 37 | 34 | 37 | ? | 36 | ? | 30 |

| | ANNETTE | EMELIE | CECILE | YVONNE | MARIE | QUINT'S APP AVERAGE ERUPTION | MAXIMUM NORMAL ERUPTION.* |
|---|---|---|---|---|---|---|---|
| **LEFT UPPER** | | | | | | | |
| CENTRAL INCISOR | 12 | 14 | 13 | 12 | 13 | 13 | 8 |
| LATERAL INCISOR | 15 | 16 | 14 | 16 | 16 | 15 | 10 |
| CUSPID | 26 | 27 | 25 | 26 | 26 | 26 | 20 |
| FIRST MOLAR | 19 | 19 | 19 | 20 | 19 | 19 | 16 |
| SECOND MOLAR | 37 | 38 | 35 | 38 | 36 | 36 | 30 |
| **LEFT LOWER** | | | | | | | |
| CENTRAL INCISOR | 11 | 15 | 12 | 15 | 15 | 14 | 8 |
| LATERAL INCISOR | 16 | 16 | 15 | 16 | 16 | 16 | 10 |
| CUSPID | 23 | 24 | 23 | 24 | 23 | 23 | 20 |
| FIRST MOLAR | 20 | 18 | 19 | 19 | 18 | 19 | 16 |
| SECOND MOLAR | 38 | 37 | 36 | 39 | 35 | 37 | 30 |

? - ERUPTION NOT COMPLETED. SEPT. 26 - 40 MONTHS
* - "DECIDUOUS DENTITION." (LOGAN AND KRONFELD.)

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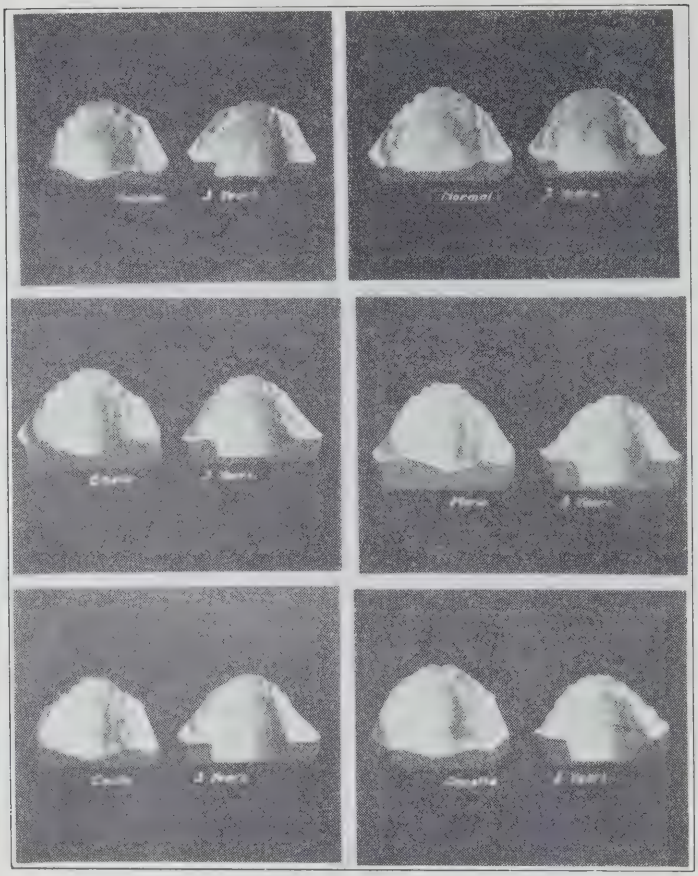

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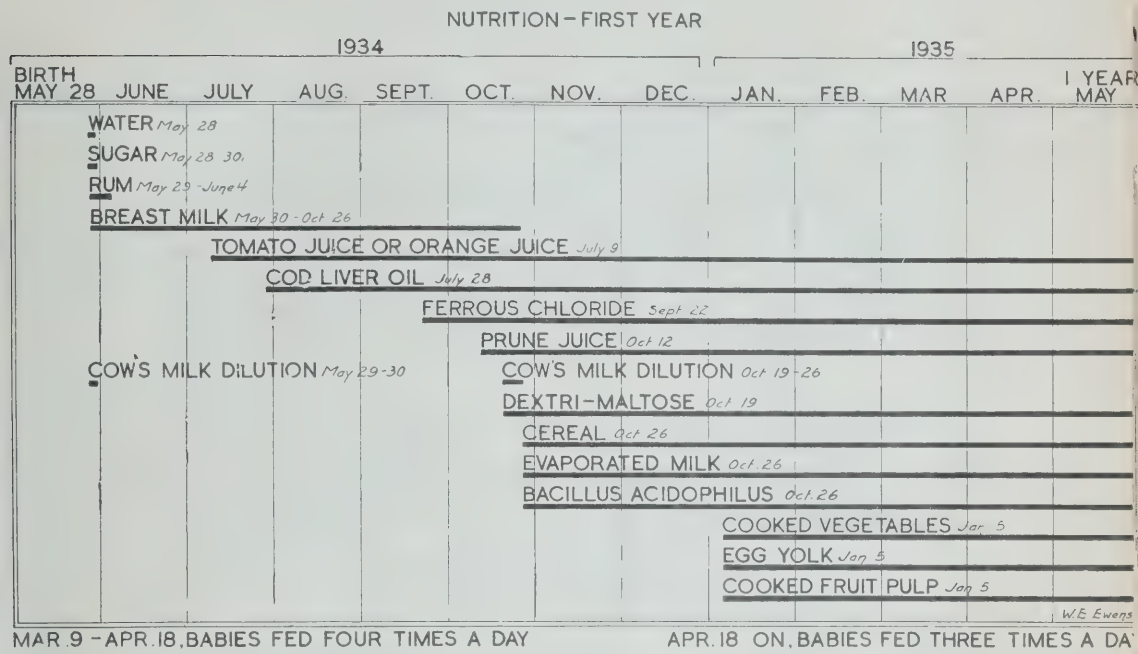
The lower radial and the two carpal epiphyses were present and well developed. The age appearance of these epiphyses vary according to authorities, but in these children, they were found to be within the range of normal. The metacarpal epiphyses were present in an advanced stage of development that is usually found between the ages of two and three.

The eruption times of the deciduous dentition in the Quintuplets have been definitely slower than normal. As a common finding, the first teeth in normal children are completely erupted by the end of 24 months (approx.). Here again it must be kept in mind that these children were premature and that there are no statistics available in a group of similar prematurity. Using Logan and Kronfeld's chart for normal human dentition, it is seen that the Quintuplets' first teeth erupted from 3 to 7 months after the maximum time limit given therein. The different types of teeth in both jaws made their appearance at approximately the same time, with the exception of Yvonne's right lower second molar (40 mos.). The *dental casts* show that there is tendency towards a narrowing of the arches which has caused some crowding of the anterior teeth, and thus producing a rotation of the incisors. In Cecile's cast there is a protrusion of the upper central

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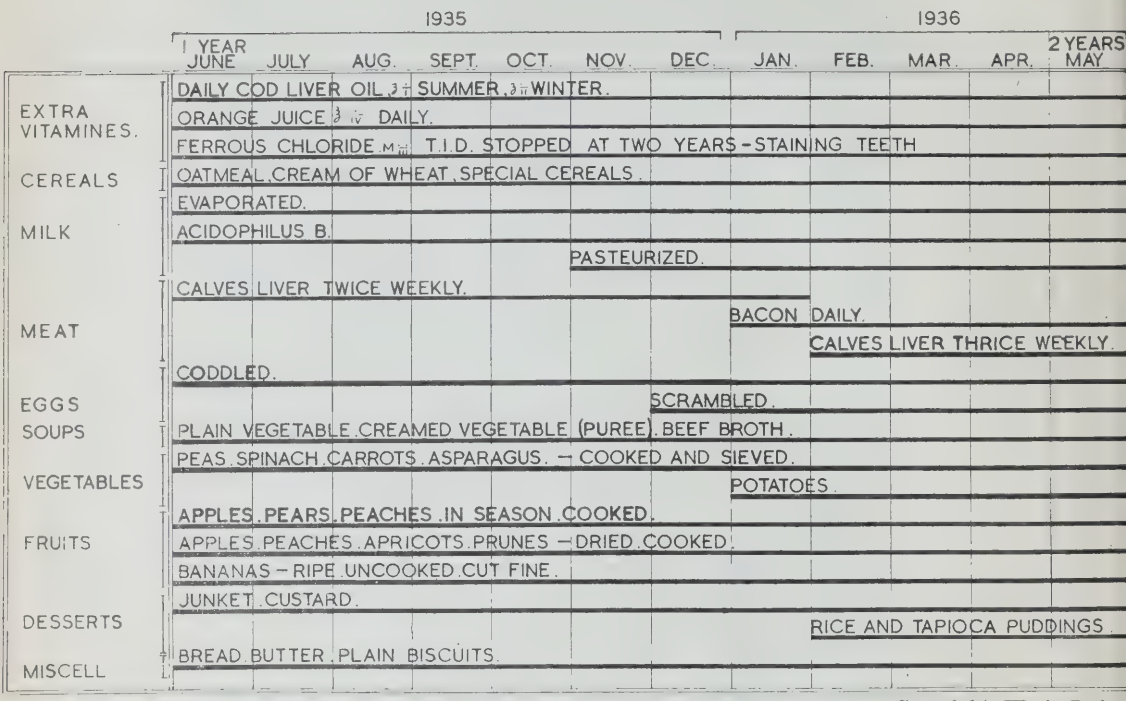
incisors which are not fully erupted and this finding is suggestive of a thumb sucking habit. This protrusion is present, but to a less extent, in Emelie's cast. The over-bite is normal with Emelie and Cecile, but somewhat excessive with the other three. The *general alignment* of the teeth in all children is good, and there is no necessity of carrying out any corrective procedures. The only abnormality is found in Marie's double upper right molar. Dental caries is absent and the teeth are hard in consistency.

### Nutrition

The charts show the details of the children's diet throughout their three years of life. On the whole, it has consisted of the five principal foods containing the growth, fuel, repair and roughage elements, together with added vitamins. The various foods were carefully chosen, slowly increased to meet the requirements of healthy growth and easy digestion. Since the first year, there has been no attempt to measure the actual caloric intake, but the normal progressive weight increase, good health, and the almost total absence of gastro-intestinal upsets, outside of infections, appear to indicate that the choice has been a satisfactory one. The menues have been varied and consisted of simple foods which have been carefully prepared. Care has always been observed to see that the foods which have been served were attractive in appearance, and palatable to the taste. As a general rule, the children have been hungry for their meals, but of course, they have their "off days". The nurses do not cater to their particular fancies or dislikes, and a minimum amount of coaxing is carried out. The amounts given at first are small, but these may be repeated. Fluids are given at the end of their meals. Iodized salt has been used in all cook-

## CHART RE QUINTUPLETS

NUTRITION—SECOND YEAR

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ing requiring it. The relaxation periods before and after meals appear to have been of great importance, as an aid to good digestion.

### Infections

The *general protective measures* include isolation from the public, and wearing of face masks and gowns by the attendants caring for the children. But in spite of precautions, the children have developed upper respiratory tract infections which are shown in the following chart. They have all received, as special prophylactic measures, three diphtheria toxoid injections at three week intervals when 1½ years of age. There were no objections from the children when this very important preventative procedure was carried out. After reactions were absent, except for irritability after the first injection. *Vaccinations* against Small Pox were performed on their thighs in January, 1937. Cecile auto-vaccinated herself on her left wrist.

The infections were practically all of the naso pharyngeal type, and by the time that one developed the signs and symptoms, the others had already been exposed. Isolation of the first one infected did not prevent the infection from developing in the others.

### Physical Examination

Careful physical examinations of the children have been carried out at intervals since birth. The one completed at the end of the third year, showed the following general findings; good general condition and colour, firm tissues, clear lungs, normal abdomens, hearts, and nerve reflexes. The children's build,

## CHART RE QUINTUPLETS

### DIET SHEETS—THIRD YEAR

WEEK FEB. 1, 1937

| BREAKFAST | DINNER | SUPPER |
|---|---|---|
| Cereal, Poached Eggs, Bacon, Biscuits, B. Bread Toast, Milk | Pea Soup, Liver, Potatoes, Raw Carrots, B. Bread, Bananas, Pineapple Juice | Cream of Wheat, Biscuits, Milk |
| Cereal, Soft Boiled Egg, Bacon, Biscuits, B. Bread Toast, Milk | Lettuce, Canned Vegetables Caramel Pudding | Porridge, B. Bread, Milk |
| Cereal, Scrambled Eggs, Bacon, Biscuits, B. Bread Toast, Milk | Soup, Potatoes, Spinach, Beets, Celery, Custard | Cream of Wheat, Biscuits, Milk |
| Cereal, Poached Eggs, Bacon, Biscuits, Milk | Soup, Raw Carrots, Potatoes, Green Peas, Graham Pie | Cereal, B. Bread, Milk |
| Cereal, Soft Boiled Egg, Bacon, B. Bread Toast, Milk | Lettuce Soup, Potatoes, Spinach, Carrots, Jello | Porridge, Biscuits, Milk |
| Cereal, Scrambled Eggs, Bacon, Biscuits, B. Bread Toast, Milk | Soup, Liver, Potatoes, String Beans, Celery, Apple Sauce | Cream of Wheat, Bread, Milk |
| Gruel, Poached Eggs, Bacon, Biscuits, B. Bread Toast, Milk | Liver, Potatoes, Spinach, Raw Carrots, Peas, Caramel Pudding | Porridge, Biscuits, Milk |

WEEK MAY 24, 1937

| | BREAKFAST | DINNER | SUPPER |
|---|---|---|---|
| M. | Cereal, Scrambled Eggs, Bacon, B. Bread Toast, Biscuits, Milk | Soup, Liver, Potatoes, Rice Pudding, Biscuits | Cream of Wheat, Sun Wheat Biscuits, Milk |
| T. | Cereal, Soft Boiled Egg, Bacon, Biscuits, B. Bread Toast, Milk | Tomato Soup, Potatoes, Peas, Lettuce, Biscuits, Baked Apple | Cereal, B. Bread, Butter, Milk |
| W. | Cereal, Poached Eggs, Bacon, Biscuits, Milk | Pea Soup, Celery, Beets, Potatoes, Caramel Pudding, Biscuits | Oatmeal Porridge, Rusks, Milk |
| T. | Cereal, Scrambled Eggs, Bacon, Biscuits, Milk | Spinach Soup, Lettuce, Canned Vegetables, Biscuits, Floating Island Dessert | Cereal, B. Bread, Butter, Milk |
| F. | Cereal, Poached Eggs, Bacon, Biscuits, Milk | Vegetable Soup, Celery, Potatoes, String Beans, Biscuits, Jello | Cream of Wheat, Angel Cake, Milk |
| S. | Cereal, Soft Boiled Egg, Bacon, Biscuits, B. Bread Toast, Milk | Liver, Potatoes, Lettuce, Asparagus Tips, Tapioca Pudding, Biscuits | Oatmeal Porridge, Biscuits, Butter, Milk |
| S. | Cereal, Scrambled Egg, Bacon, B. Bread Toast, Milk | Soup, Liver, Potatoes, Raw Carrots, Graham Pie, Biscuits | Cereal, B. Bread, Butter, Milk |

FOODS USED

1. Extra Vitamines—Cod Liver Oil, Orange Juice Daily.
2. Cereals—Oatmeal, Cream of Wheat, Special Cereals.
3. Milk—Evaporated, Pasteurized, Acidophilus B.
4. Meat—Bacon, Calves Liver.
5. Eggs—Scrambled, Soft Boiled, Coddled.
6. Soups—Plain Varied Vegetable, Creamed Vegetable (Puree), Beef Broth.
7. Vegetables—Peas, Spinach, Carrots, Asparagus, Celery, Potatoes, Beets, String Beans.
8. Fruits—Apples, Pears, Peaches, Cooked in Season; Bananas, Apples, Peaches, Apricots, Prunes (Dried), Cooked.
9. Desserts—Custard, Jello, Rice, Tapioca, Caramel, Graham Puddings.
10. Biscuits—Arrow Root, Sun Wheat, Soda, Rusks.
    Bread—White, Brown.
11. Butter—On Bread, Biscuits, Vegetables.

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posture, muscular and bony development appeared to be normal. All of the children show the local after results of their upper respiratory tract infections, that is, enlarged tonsils and other surrounding lymphoid tissue, and bilateral palpable cervical glands. The examination of their special senses found the ears and noses normal. With Yvonne, Annette and Cecile the eyes were far sighted, but perfectly normal. Emelie has a little astigmatism in both eyes but she may never need to wear glasses. Marie has some inco-ordination of the eye muscles. (She does not always use both eyes equally well in looking at objects.) We feel that this can be corrected.

### Conclusion

The general health and development of The Dionne Quintuplets appears to be normal, and there is no evidence of any physical or mental abnormality resulting from their prematurity.

The dental supervision was carried out by Dr. A. D. A. Mason and certain members of his staff. My brother is very appreciative of the good work that was done in this regard.

# *Intravenous Anaesthesia in Dentistry and Oral Surgery**

by F. W. SAUNDERS, D.D.S., L.D.S., F.I.C.A.
*Dental Surgeon to the Royal Victoria Hospital, Montreal, Canada.*

THIS subject will be approached from the view point of the operator and not from the view point of the anaesthetist. My reason for so doing, is that before I discuss Intravenous Anaesthesia, I desire to take up the matter of the selection of an anaesthetic for certain types of oral surgery and exodontia.

In my practice, which is limited to exodontia and oral surgery, I have come to the conclusion that all cases, except those for simple extractions, should be hospitalized and done under a general anaesthetic, in an operating theatre under aseptic conditions. I can produce case reports to show that in over 90% of cases of impacted teeth of varied severity, removed under these conditions, there has been no swelling and such an exceptionally small amount of pain, that it has not been necessary to administer sedatives. Formerly such impactions removed in my office, either under block anaesthesia of a general anaesthetic, usually meant painful, swollen faces. I could not attribute to technique alone, the difference in results obtained, but I felt it was due to two things, the proper post-operative care received in the hospital, and the proper anaesthetic, one which would give complete muscle relaxation. Although it is possible to remove an impacted tooth painlessly when a block anaesthesia is used, trismus and swelling usually follow. I think this is due to the fact, that in mandibular impactions especially, the patient's facial muscles are tensed and the operator imposing a great deal of pressure on contracted muscles, causes a so-called "charley-horse". I feel that swellings and infections can be avoided to a great extent during operation, if the patient is in a reclining position, on an operating table, head back and chin up, so that the wound can be kept free of saliva.

The final choice of the anaesthetic for my patients is left to the anaesthetist, after the patient has had a thorough medical examination. My suggestion as to the type of anaesthetic, however, is usually accepted, unless there is some good reason for not doing so, and I might say that for most cases requiring any length of time Avertin and intratracheal cyclopropane is my choice.

I believe intravenous anaesthesia has its place as an anaesthetic for dental surgery but I do not believe that it should replace inhalation anaesthesia in dental offices, as it is not an ideal anaesthetic for use in the average office as at present equipped. However, I think that it should have a wider use than it enjoys at present, especially among rural practitioners and in institutional work.

The following drugs are in popular use today, evipal (Winthrop), pentothal (Abbott), sodium thioethamyl (Parke-Davis), which is not, as yet, being marketed. There may be other drugs

* Canadian Address presented to The National Association of Dental Anaesthetists, The American Society for the Advancement of Anaesthesia in Dentistry, Academy of Anaesthesiology in Oral Surgery, and The Horace Wells Anaesthesia Society, at New York City, Oct. 17, 1938.

on the market about which I do not know.

Pentothal has, we think, some advantage over the others. When I use the term "we", I refer to the members of the corps of anaesthetists on the staff of the Royal Victoria Hospital, and to whom I am indebted for co-operation in the preparation of this short paper.

Patients requiring mouth surgery whom we feel should be anaesthetized by means of intravenous anaesthesia as a preference, are those suffering from pulmonary lesions, bronchial disease and nasal interference such as enlarged tonsils, adenoids etc.

For those patients who have impaired liver function, intravenous anaesthesia is perhaps contra-indicated. Intravenous anaesthesia has some unfavourable points, such as the fact that it is a slight respiratory depressant and we have a lack of perfect control of duration of the anaesthetic.

This is offset by the following favourable points:—

1. Ease of administration.
2. Simplicity of equipment.
3. Complete relaxation of the muscles.
4. Marked absence of after effects.
5. Deep anaesthesia quickly obtained.
6. Rapid return to normal in most cases.
7. Apparently no apprehensiveness on the part of the patient.
8. Exceptionally economical.

Never have I heard a patient speak of having had a dream; in fact, many patients will tell you that their thoughts seem to continue from where they left off upon going to sleep.

I do not intend to burden you with the technique of its administration. You can find that already published under my name in the Dental Cosmos for September, 1934. In that article I have covered the technique of administrating intravenous anaesthesia quite fully. There are some precautions to take which I feel it advisable to reiterate in this paper. Do not administer the 10 C.C. all at once nor too fast; if you do, breathing may be imperceptible for from 2-3 minutes, but in all cases in which I have noticed this, the breathing has returned to normal. It is essential to inject the solution very, very, slowly but fast enough to avoid clotting of the blood in the needle. 10 C.C. of pentothal, which is a 10% solution, will usually keep your patient completely anaesthetized and relaxed for thirty minutes or more. More than 10 C.C. can be used with safety if the pulse and respiration are closely watched. I do not know the maximum dose for humans.

Sodium thioethamyl seems to have a greater margin of safety than the others. Apparently it does not depress the respiration to such an extent but this is offset by the fact that a greater amount must be used to produce the required anaesthesia. With pentothal deep anaesthesia is obtained in an average of ten seconds. With evipal fifteen seconds are required.

I hope you have not come here to listen to a discourse upon the Pharmacology of the Barbiturates. I am not a pharmacologist. I could have looked it all up and included it in this address but I am sure it would have bored you unnecessarily.

So far I think I have praised intravenous anaesthesia, but lest you be misled into thinking it is perfection, let me mention a few things to be on the alert to perceive. (1) Depression of the respiration centre. (2) Depression of the cardio-vascular centre. (3) Cerebral dysfunction. If the first occurs, and it is convenient, administer oxygen 95% and carbon dioxide 5%, preferably by means of an intratracheal catheter; if not convenient commence

artificial respiration, or inject intravenously, strychnine hydro-chloride grains 1/30-1/8 or atropine sulphate grains 1/60-1/24, which stimulates the respiratory centre and frees the heart of vagus inhibitions, or ephedrine hydro-chloride grains 1/4-1/2 which accelerates the heart, raises blood pressure and stimulates the entire central nervous system, especially the cerebral cortex, or adrenalin hydrochloride 2-8 mm. which causes a rise in blood pressure and acceleration of the heart. Unfortunately the action of this drug is too fleeting to be of much practical value.

In cases with a certain amount of cerebral dysfunction, an infusion of coffee given by rectum restores cerebral function. In operating on hundreds of cases where intravenous anaesthesia has been used, I have never seen any of these untoward symptoms where the above stimulants have had to be used.

Earlier I stated that intravenous anaesthesia should enjoy a wider use among rural practitioners; I referred to both dentists and physicians. The technique is so simple, I do not mean to infer that rural practitioners are simple, but I mean that a special training is not necessary, as is the case in the administration of most other general anaesthetics; one needs only to know how to insert a needle into a vein and prove the insertion.

It is granted that nitrous - oxide anaesthesia may be nearer ideal, but the expensive equipment is not always practical. It seems to me that the country doctor could use such an anaesthetic as pentothal or evipal on numerous occasions, when he is called upon to perform minor surgery in outlying districts, and it would be infinitely better than ether or chloroform which are so often used in dental offices throughout the countryside.

Let me in conclusion draw a few comparisons between intravenous anaesthesia and some of the better known general anaesthetics, as regards the effect upon the blood pressure and upon respiration.

With ether there is a rise of from 20-30 points in blood pressure.

With nitrous-oxide and oxygen there is rarely any change unless cyanosis is present.

With intravenous anaesthesia there is a drop of 20-30 points.

With ether the respirations vary with the open and closed technique.

With avertin there is only a slight depression of the respiratory centre.

With nitrous-oxide and oxygen there is no perceptible change unless cyanosis is present.

With intravenous there is a slight depression.

It has been my experience in operating in various hospitals that the general run of anaesthetists are not trained in administering nitrous-oxide as it should be administered for mouth surgery, and unless I am to have the assistance of a well-given inhalation anaesthetic, I would much prefer that the patient be given an intravenous anaesthetic. If the case is to be of a longer duration than 30 minutes intratracheal nitrous-oxide or cyclopropane can be used; the intravenous has thus become an induction anaesthesia.

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*"Material success dies with the man or woman who gains it. The names of those whom every school child could name as among the great of the human race are not a catalogue of millionaires or magnates. They are the names of those who have given the world great service. They are the names of those who have sought more than mere possession."—Sir Edward Beatty.*

# *Full Denture Prosthesis*

by FELIX A. FRENCH, D.D.S., F.A.C.D., Ottawa, Ont.

MORE fanciful theories have been exploited in Full Denture Prosthesis than in any other field of dental practice. Every method of procedure originated as an idea in some man's brain; it was a theory; when put into execution it became a technique. The results obtained either confirmed or refuted the theory. The great majority of techniques were undoubtedly advocated in all sincerity and good faith; a few, unfortunately it would seem, were for purely selfish or commercial reasons.

As one who ran the gamut of procedures and swallowed many sugar-coated prosthetic pills which produced mainly denture cramps and headaches, I wish to stress what appeal to me to be basic principles underlying the problem of constructing full artificial dentures. My conclusions are drawn from thirty odd years of practical work in this particular field and no apologies should be necessary for taking such liberties when we consider that there still exists much diversity of opinion among the prosthetic departments of our colleges, as well as in the ranks of the profession itself.

Recalling the procedures and the results of earlier years we still have vivid recollections that both were very much of a "hit and miss" nature with the odds considerably in favour of the latter. Teeth were just pulled and the mouth left to take care of itself. Three or four months later when points or edges of process prevented the insertion of dentures it was the patient's hard luck and anatomical fault. Plaster impressions in large, heavy metal trays, a mush bite, plaster casts stuck in any kind of a hinge appliance and teeth arranged chiefly for appearances with little or no attention paid to functional movements, complete the picture.

When a patient was satisfied with the result, as some apparently were, we were quite willing to take all the credit, though we could not state what factors contributed to the success of the case; on the other hand, when a case was a failure, as many of them were, we did not know the reasons why and were equally willing to lay all the blame on the patient's mental or physical peculiarities.

Fortunately for all concerned that situation can be quite different today and we may now work to a more definite result. The careful removal of points and edges of process at the time of extraction eliminates the long delay. Individual impression trays and new materials render impression work less unpleasant and more effective. Rigid, well-adapted base plates, together with the needle-point tracer ensure centric jaw relation and enable us to secure accurate measurements for instrument adjustment, so that we may establish masticatory surfaces that will function in harmony with the patient's jaw movements. The realization that artificial dentures are but mechanical appliances functioning in an anatomic environment and the consideration now given to physical function not only facilitates our problem but results in dentures that are more stable, more comfortable, more efficient and a service that is more lasting, as there is less injury to the supporting tissues. Before a case is now completed we can estimate fairly well what the result is going to be and are in a position to tell the patient what to ex-

pect, what not to expect, and why.

Most of our energies in the past were expended in developing techniques and instruments, both very important adjuncts, but in the final analysis of only secondary importance. Techniques and instruments in due time reach a near limit of refinement depending as they do merely upon ingenuity and skill. It takes new fundamental principles to open up and provide further avenues for progress.

In the process of developing the various links in the chain of our present technical procedures many serious mistakes were made which, however, often served to uncover fundamental principles. For instance, at one time it was thought that an exceedingly tight-fitting denture was the main requisite to success. We then proceeded to take beautifully muscle-trimmed impressions and post-dam the entire periphery, only to learn that overly-tight bases resulted in tissue atrophy. We might have reasoned that denture bases resting on living tissues should not interfere with physiological function but it took clinical evidence to drive this fact home.

At another period, the introduction of oral surgery, under the caption of Alveolectomy, was hailed as a great advance. We would predetermine nature by cutting away the alveolar process and thus save the patient the trouble and expense of having successive dentures made. This method exposed the apical areas and made them more accessible for eradicating infection, provided ample room for setting the teeth, facilitated the immediate insertion of dentures and in many respects looked like a logical procedure. We soon observed that extensive removal of the cortical layer resulted in a congested mucosa which did not tolerate stress, and that many cases, which at first appeared excellent, were, after a period of two or three years, truly disastrous. It is my conviction that infinitely more harm than good has resulted from alveolectomy and that, from the standpoint of the physical function of artificial dentures, extensive alveolar surgery is nothing short of malpractice. Mouth preparation has a very definite place in our technical procedures, the removal of points and edges of process, or of an occasional bump, undercut or osteoma may be most helpful but in all our surgery we should take the long-range view to the end that each patient may go through life with the best possible ridge form that conditions will permit. Alveolar process has a very definite function after the natural teeth are lost and, except in extreme cases, the less we have to cut away the better will be the final result.

Another quite natural but very serious blunder was our assumption that artificial dentures and natural teeth functioned in the same manner. Some years ago the ambition of every dentist was to be able to construct artificial dentures that would be an exact replica of the natural teeth in form and arrangement. It was a very disconcerting fact that the nearer we came to achieving this ambition the less satisfactory was the functional result. The reasons for this are quite clear to us today.

In all our efforts to closely imitate the natural dentition in form and arrangement, certain definite results followed, viz., deep incisal overbite restricted masticatory movements and induced instability, tilting and atrophy in the anterior area; interlocking cusps on the posteriors produced lateral thrusts which also were displacing factors very frequently in excess of base retention; steep cusps wrecked practically every mouth in which they were used, lower cusp inclines were proportionately less vicious. When anatomically - formed posteriors were first used instability and

tilting noticeably increased, therefore we had to learn how to take better impressions, and when combined with tighter-fitting bases there was an unprecedented demand for rebasings.

Where they were used in conjunction with an adjustable instrument the results were very much better, due to the fact that in the grinding-in process the interfering cusps were either reduced or removed and the resulting balanced occlusions greatly enhanced stability. This saving feature, however, was not very generally applied and even today it is estimated that less than five per cent of the profession use an adjustable instrument.

There was another handicap. During my twenty years' experience of using anatomic posteriors on an adjustable instrument, I found it necessary to remount and regrind a great many cases, some as often as four or five times. Many patients who found their dentures comfortable and stable at first, complained after a few months of instability. Each denture, tested separately, appeared well seated, when remounted in the instrument it was evident that the instability was due to a change in centric relation and when reground the case was again stable. Other dentists told me of having had similar experiences. This was a perfectly natural phenomena because when we built those dentures we associated centric occlusion of the teeth with centric jaw relation and this association was seldom subsequently maintained. We had become imbued with the erroneous idea that to be efficient in function, teeth had to be of anatomic form. The manufacturer evidently sold that to us along with the teeth. We did not realize that anatomic posteriors with their two-way system of cusps, sagittal and transverse, when arranged in centric occlusion, definitely interlocked, and when milled in on an adjustable instrument, the opposed cusp inclines intermeshed with absolute precision, and that we were therefore very foolishly trying to tie up an inflexible, definitely intermeshed centric occlusion of the teeth with an unstable, changeable, centric jaw relation; consequently, as factors either threw the cuspintation out of gear or one or both dentures would necessarily be unseated, hence the instability which the patients experienced.

There was a fundamental principle involved which we were blissfully ignoring, viz., the construction of those dentures involved the association of four factors:

1. The seating of the upper denture.
2. The seating of the lower denture.
3. Centric jaw relation.
4. Centric occlusion of the teeth.

We had assumed that this association, when once established, would stay put and had considered each as a positive factor, whereas it was seldom subsequently maintained and one, at least, of those factors should have been flexible or accommodating.

The seating of both upper and lower bases upon the tissues were positive factors, even though the supporting tissues might change.

Centric jaw relation was also a positive factor for each vertical opening. Centric occlusion of the teeth was the only one which lent itself to act as an accommodating factor, but the opposed cusp inclines we were using were non-accommodating as has been amply demonstrated during the past twenty-five years with the use of anatomic posteriors.

Eliminating anterior overbite and anteroposterior cusps has done away with this nuisance of remounting and regrinding which I had with the anatomic forms, and after several years of clinical evidence with this procedure I am more enthusiastic about it than ever and more definitely convinced that

posterior teeth with sagittal and transverse cusps such as we have in anatomic forms, are unsuitable for full denture work. My enthusiasm for this procedure is due not only to the fact that there is much less instrumentation but also because there is more denture stability, less tilting and skidding, less soreness, less running back for adjustments, in fact, less trouble all around for both patient and dentist.

It is surprising how difficult it is for most of us to break away from long-established customs; any radical departure from our regular routine is generally looked upon at first as a mere innovation.

We were so accustomed to using anatomic posteriors and so impressed by advertising which claimed they were the solution to our denture problems, that when the first non-anatomic forms appeared we looked upon them as freaks or the product of a distorted mind. A better understanding however of the physical function of artificial dentures gradually revealed the startling fact that the so-called anatomic posteriors, far from solving our denture problems, were a severe handicap to us in our efforts to render better service and were directly responsible for many of the badly-wrecked mouths we were called upon to treat.

Accumulated clinical evidence clearly shows that the idea of modifying tooth forms in such manner as to do away with interlocking cusps has not only been a blessing to denture-wearing patients but also to us, and particularly to that large percentage of the profession which does not use adjustable instruments.

It was inevitable that some opposition should be offered to this idea by those who still had intercusping teeth to foist upon the profession. Apparently unable to find any other fault with the procedure, they circulated the report that non-intercusping teeth permitted the mandible to slide forward and fall in the patient's lap. They insisted that interlocking cusps were necessary to hold it back in position. An analysis of this contention turns it into something of a boomerang.

If it were true that we needed cusps to hold the mandible back in position then there should be plenty of evidence to support it, as intercusping anatomic teeth have been in use now for some thirty years. Unfortunately for the sponsors of this claim, all the evidence not only refutes their contention but points the other way.

The great majority of those protruded chins that we see are wearing intercusping teeth which not only failed to hold the mandible back, but, we would not be far wrong in stating that the cusps were responsible for the resorption which brought about the protrusion.

Those so-called cases of protrusion are the direct result of tissue destruction which allows the jaws to come closer together as they close; the mandible moves upward and forward; it is a component movement, so how could cusps hold it back? That would be defeating nature, which indeed would be some accomplishment.

The only thing which interlocking cusps might or could do would be to hold the lower denture back, in which case it would necessarily be unseated as the lower jaw moves (upward and forward). The worst cases I ever saw were those in which the opposed cusps had jumped each other, thus forcing the lower denture further forward than it normally should have been.

Not so many years ago the theory was advanced, "that when the teeth came into contact the opposed cusp inclines became the determining factor

in the movements of the mandible." The chief exponent of this theory advocated the use of 45 degree cusps to act better as guides and to cut food. The tale of grief and woe that followed in the wake of that procedure is still fresh in the minds of all who tried it.

It is to be hoped that younger men coming on will not have to learn by sad experience that denture bases rest on resilient displaceable tissues rather than hard bone, and that horizontal forces tend to skid the base and injure the tissues instead of guiding the bony mandible.

In order to make artificial teeth function as guides we would have to attach rigidly the denture bases to the underlying bone by means of rivets, bolts or screwnails and no one has successfully done so to date.

Jaw positions may be viewed in another way. The lower jaw has two main relations to the upper, viz.,

1. Contact relation.
2. Rest relation.

The contact relation is a strained relation, we can hold it for only a very short time without tiring the muscles. The teeth contact only in the acts of swallowing or masticating. Practically all the rest of the time whether we talk, laugh, sing or sleep, the teeth are out of contact and the mandible suspended, its movements controlled purely by the muscles, the teeth merely acting as stop-blocks in the closing movement.

It becomes evident then that this claim, of interlocking cusps being necessary to hold the mandible back in position, emanates either from a gross misunderstanding of mandibular function or from a deliberate attempt to mislead.

A little thought given to the physical function of artificial dentures clearly indicates that occlusal surfaces should glide freely and easily upon each other and be free from any tendency to lock; that cusp height should be reduced to a minimum, particularly in the sagittal plane, and that every compromise we can possibly make in favour of physical function is bound to lead to much better results.

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*The other day I met an old friend whom I have not seen for years. We talked for five minutes. There was time for me to learn what he had been doing, was doing, was about to do. I talked about his health, past and present, the health of his relatives, the temperature of his reputation in the world in which he played his part. It was indeed a Who's Who concerning him. We shook hands and parted.*

*But not one word had he heard about me; not an inquiry did he make. My plans, health, relatives did not enter into the conversation, which on my part was limited to "Yes" or "I see," or "Was it?"*

*When I had time to think over that encounter, I did so in fear and trembling. I was not so much afraid of what was creeping upon my old friend, but upon the danger, which besets all of us, myself no less than others. It creeps stealthily upon us as the years pass, so stealthily that we do not detect it in ourselves.*

*But I saw it clearly enough in my friend. I said, "How egocentric he is becoming! He used to take a real delight in the welfare of his friends. He is changing; and if he changes much more there will be only one being of importance in the world, and all the rest will revolve around him."—"Quintuz Quiz" in the "Christian Century."*

# *Burning Sensations of the Mouth*

by GEORGE A. MORGAN, D.D.S., Toronto, Ontario.

EXPERIENCE has taught us that burning sensations of the oral mucosa can no longer be catalogued under any one heading. Each case presents a specific and individual problem which, in order to solve, generally requires the taking of a detailed dental history, a complete, accurately interpreted full mouth roentgenological examination (at least fourteen films), plus a thorough, tabulated, clinical survey. A careful evaluation of these three above mentioned necessary adjuncts, coupled with a physician's report, will generally solve this all too frequently unsolved problem.

The aetiology of burning sensations in the mouth varies greatly. The condition may be observed in the edentulous mouth, the partially edentulous mouth or that containing a full complement of teeth. This unpleasant sensation may be present in the tongue, the palatal mucosa, the alveolar ridge, the floor of the mouth, or the vestibule.

Many burning sensations are somewhat imaginary. Many are caused by pressure of dentures or other traumatizing agents on nerves which are close to the oral mucosa. Many are thought to be caused by food allergies, many by chemical or bacterial irritants, many by an over-dose of roentgen ray therapy or prolonged application of radium. Many are attributed to secondary manifestations of local or general systemic disturbances such as, hyperthyroidism, diseases associated with high fevers, diabetes, syphilis and various blood dyscrasias.

For the purpose of classification in making a differential diagnosis between burning sensations of the oral mucosa of dental aetiology and those of systemic origin, the author has attempted to classify these conditions in two groups: those of dental origin and those of systemic origin.

## Dental Origin

Among the dental factors which contribute to this unpleasant sensation may be included:—

1. Unclean habits of the patient—Constant neglect of ordinary oral cleanliness has been found in many instances to lead to a generalized stomatitis.

2. Unsatisfactory dental restorations—Many restorations such as ill-fitting crowns and overhanging margins have resulted in inflamed and irritated areas.

3. Impacted teeth, retained roots and residual infection—Many cases have been observed where pressure on nerves caused by these aforementioned conditions has been directly responsible for a burning sensation in the mouth.

4. Partial or full dentures—Improper adaptation of partial or full dentures, as well as unfinished and unpolished surfaces, have been frequently known to be all important factors in many burning mouth sensations. Pressure on nerves close to the oral mucosa from dentures or other denture-contained traumatizing agents, or the close proximity of the mental foramen or the posterior palatal foramina to the ridge, are all frequent aetiological factors. Friction of ill-fitting dentures during mastication, frequently results in hot spots. Relief of the denture pressure, rebasing, or a coating of sterile white vaseline applied to the complained of area will be much appreciated by the patient, and frequently patients may benefit from a change to a metal base. The relieving of the denture in the sore areas often aids greatly in reducing the complained of symptom.

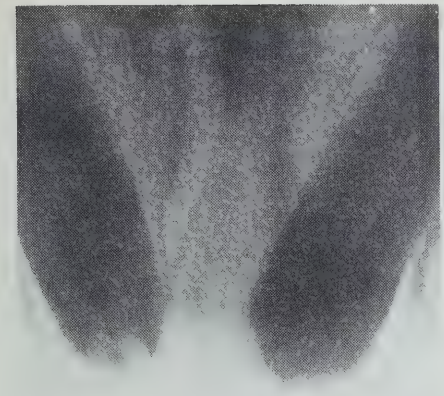

**Figure I.**—*Illustrates two impacted decalcifying upper cuspids, the aetiological factor in a burning sensation of dental origin. History—female of middle age with a burning sensation in the upper palatal mucosa extending over a five-year period. Several dentures of different basic materials had been made by three different dentists during that time but no relief was secured. Roentgenological examination by the author disclosed the two above illustrated impacted teeth which, associated with denture pressure upward, pinched the anterior palatin nerve in a vise-like manner. The removal of these two teeth cleared up the condition with no recurrence to date, a period of three and one-half years.*

5. Denture ingredients—The possibility of patient idiosyncrasy to various denture ingredients should not be overlooked. Due to lack of proper denture cleanliness on the part of the patient, dentures of a porous vulcanite construction have become the seat of bacterial growth. In addition, many dentures have poor thermal conductivity and retain the heat of the palatal mucous membrane. This discomfort may produce a highly irritated and inflammatory condition. It is not impossible to conceive that patient idiosyncrasy to various chemicals contained in the vulcanite, the newer celluloids, resinoids and condensite bases, may, on occasion, be the source of constant irritation.

6. Dental powders and pastes—Occasionally one will contact a patient whose burning sensation is due to ingredients contained in dental tooth powders and pastes, or in those dental powders used for denture adhesive purposes.

7. Radical dental surgery—Frequently, the too ambitious use of the surgical chisel in the radical removal of bone for the extraction of teeth, or the fracture of a portion of the protective buccal bone in the region of the dental foramina, have been found to be responsible for a prolonged paraesthesia which has resulted in patient discomfort.

8. Pyorrhetic involvement — This common dental complaint, especially in the advanced stages, may, on occasion, be the aetiological factor in the production of these burning sensations.

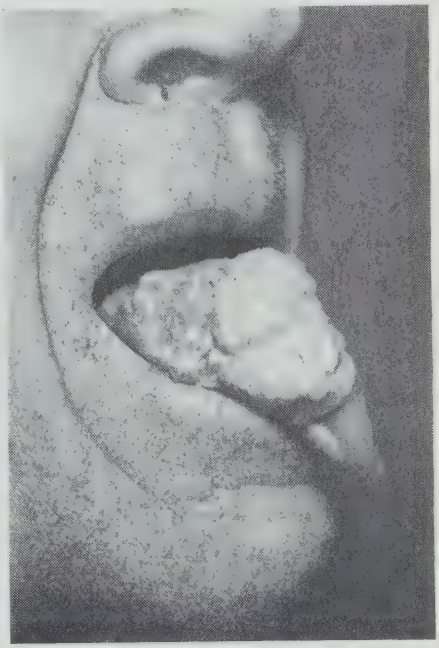

**Figure II.**—*Illustrates photograph of patient with carcinoma of the tongue. History—male of middle age with burning sensation in this area. It is interesting to note that in this example of the second group of aetiological factors the condition overlies leukoplakia which may be seen along the anterior border of the tongue. These cases when seen by dentists should be immediately referred to competent medical attention.*

### Systemic Origin

The persistence of burning sensations in the mouth where the dentist has carefully eliminated the dental aetiological factors, should be considered a combined medical-dental problem. Among the systemic conditions which may contribute to this mouth discomfort may be included:—

1. Blood dyscrasias — Many general systemic conditions manifest themselves in the mouth and anaemia, syphilis and diabetes should never be overlooked. The characteristic blue line of mercury, bismuth or lead is often an aid in diagnosis. A burning tongue sensation is said to be one of the first clinical signs of pernicious anaemia.

2. Food allergies — The ingestion of certain foods, particularly fish and shell fish, is followed in allergic patients by an outbreak of burning lesions in the oral cavity. These eruptions belong to the erythema multiform and angioneurotic group. Certain fruits, notoriously strawberries, also pork, eggs and nuts will also produce similar eruptions in predisposed individuals.

3. Medicinal stomatitis — Many patients have an idiosyncrasy to certain drugs such as phenolphthalien (as contained in many laxatives), acetanilid and barbiturates. Other types of chemical irritants such as tobacco smoke, alcohol, etc., may also be grouped together as possible factors in burning mouth sensations.

4. Leukoplakia — Many burning mouth sensations associated with leukoplakia should be referred for medical consultation and diagnosis. These cases should be looked upon with suspicion since they are more liable to be potentially malignant than those which apparently give no trouble.

5. Exerostomia or dry mouth—also an aetiological factor in burning mouth sensations, is this condition which produces a pronounced dryness of the oral cavity, the result of diminished or arrested secretion of saliva. Clinically, the tongue is dry and red in colour, having the appearance of raw meat, and is generally deeply fissured. The aetiology of exerostomia is said to vary greatly, cases having been reported in which such factors as heavy doses of roentgen therapy, prolonged application of radium, sudden shock or emotional disturbance, or as a secondary manifestation of such local or general disturbances as hyperthyroidism, diseases associated with high fever, etc. Exerostomia of a temporary nature is frequently observed in public speakers or musicians playing wind instruments, due to temporary inhibition of salivary secretion. While the prognosis of exerostomia depends upon the aetiological factors of the disease, it is generally favourable. A fifty per cent solution of glycerin in water, flavoured with lemon, has been found to soothe the inflamed surfaces and provide salivary stimulation.

6. Neuralgias—Many forms of nerve irritation, including the dreaded trifacial neuralgia, present a complex dental picture, since for the most part they present no tissue inflammation.

### Conclusions

From the foregoing it will be seen that this condition might be the result of many individual or combined factors. It should not therefore, be necessary to stress the fact that a detailed dental case history, a thorough and accurately interpreted roentgenological examination, a tabulated clinical survey coupled with a medical report, are the prime essentials in attempting to solve the problem of burning sensations of the mouth.

# A Case History of the Extraction of Teeth for a Haemophiliac

by MARION JOY, D.D.S., Toronto, Ontario.

A 17 year old boy with a history of being subject to repeated episodes of marked bleeding into tissue on the slightest degree of trauma was referred to Dr. J. A. Dauphinee with regard to haemophilia and advisability of operative interference. He was admitted to a public ward in the Toronto General Hospital on June 28/38.

*History of Present Illness:*

For six months he has had difficulty in opening his mouth and has had pain in the temporomandibular joint. He has had repeated toothache in the lower right first molar and swelling below the mandible. There is a history of repeated sore throats and swollen glands in the neck.

Examination of the mouth, clinically and by x-ray, revealed a lower right 1st molar with apical infection, and a badly broken-down lower left 2nd molar with apical infection; a small upper deciduous root between the 2nd upper left bicuspid and 1st molar; and 2 carious teeth with no pulp involvement.

*History of Haemophilia:*

Ever since he can remember, the slightest type of injury left a large black and blue mark. Small cuts in the hand would bleed for days, and leave large subcutaneous haematoma. There is no definite history of hemorrhagic diathesis, except possibly a cousin on the father's side.

*Blood Examination:*

Blood Pressure—120/70
Haemoglobin—83%
Coagulation Time—3 hrs. plus.
Red Blood Count—4.9
White Blood Count—13,000
Platelets—numerous.

Bleeding time following a sharp 2 m.m. cut in the lobe of his ear was 12 minutes, and even after that period the blood would readily flow again after a gentle disturbance of the surface of the bleeding point.

On July 8 he had a blood transfusion of 500 c.c. whole blood from a professional donor, but extraction was postponed due to acute infection around the lower right 1st molar. This was brought to the surface along the peridental membrane by the placing of a couple of large raisins over the area in his mouth. Three hours after the transfusion spontaneous clotting time had been reduced to 18 minutes, and the tube could be turned upside down in 25 min.

On July 11 he was given another transfusion of 500 c.c. blood. Under intertracheal anaesthesia, cyclo propane, after his jaw had been forcibly opened, Dr. W. M. Twible extracted the lower right first molar without difficulty. Preoperative medication was:

Morphia—1/6 gr.,
Atropine—1/150 gr.,
Nembutal—1½ grs.

The socket was immediately filled with a piece of cotton saturated with warm Fer-de-lance snake venom of Ledarle & Co.* The packing was repeated three times during the next 18 hours, during which time the total blood loss was approximately 100 c.c. During the 24 hours between 9 a.m. July 12, and 9 a.m. July 13, blood loss was approximately 200 c.c.

*Peck, Samuel M.—Arch. of Oral Path. (March) 1937.

On July 13 the blood examination was done:

HB.—85%,—R.B.C.—4.9 with numerous platelets.

The snake venom controlled the haemorrhage fairly well.

Regarding the snake venom: in vitro its action was very rapid. When .02 c.c. of venom was added to 1 c.c. of recently drawn blood from this boy, the clotting time was reduced from 3 hours to 1½ minutes. The clot was very tough and firm. In the socket the venom-soaked plug caused coagulation of the blood, allowing but little oozing, but if disturbed or shifted, the flow of blood became very free again. Snake venom pack was placed at 11 a.m. and 2.30 p.m.

On July 14, the patient was given another transfusion of 500 c.c. blood indirectly from his aunt and 400 c.c. normal saline solution. Bleeding was less after transfusion, and at 8 p.m. bleeding stopped entirely. The socket was packed with snake venom at 10 o'clock and 3.30.

On the 16th a very mild oozing of blood occurred. The packing which had not been disturbed for 36 hours was removed and the socket repacked. HB. was 70%.

On the 18th the packing was removed, and normal saline mouth wash resorted to. The socket was left open.

The patient was discharged on July 21.

On July 27, 1938, this patient returned to the hospital for the extraction of the lower left 2nd molar. His general condition was not as good as on previous admission.

H.B.—70%. R.B.C.—4.2. W.B.C.—6.450.

On blood examination in one hour a jelly-like clot formed, which broke down on shaking. In one and a half hours a firm clot had formed not disturbed by shaking.

On the 27th the patient was again sent to the operating room. Premedication:

Morphine—1/6 gr.,
Atropine—1/150 gr.,
Nembutal—1½ grs.

Intra pharyngeal cyclo propane anaesthetic was given. Dr. Twible removed the tooth with difficulty. There was considerable bleeding from the socket. A small upper deciduous root fragment was also removed at the same time. The patient was given a transfusion of 500 c.c. blood. This reduced the bleeding, and packing the socket with snake venom completely stopped the haemorrhage for a few hours.

For three days the socket was packed at intervals of six and eight hours, but there was a steady oozing of blood. As his haemoglobin was dropping, he was again given a transfusion of 500 c.c. from a man donor. This had no effect on his bleeding, and packing of the socket and oozing of blood went on for 2 more days.

On August 2nd styptven was used as packing and the bleeding was controlled for two hours, after which it was worse than ever. Packing with pressure and a compound bite-block was tried unsuccessfully. The socket was cleaned out and two pledgets of cotton were placed deep in the root with pressure on a large cotton pad over all, but oozing of blood continued.

The patient became weak and pale and mentally upset, so on August 4 he was given three transfusions — two from women, and one from a man. Haemorrhage completely stopped, and a large clot, the size of an egg, formed in his mouth, which was not disturbed. On August 5 this clot and packing were removed, and the mouth thoroughly cleansed with normal saline solution. A small light packing of snake venom was again inserted. The mouth of the socket was becoming smaller.

August 6—The mouth was fairly clean, and the packing was not disturbed.

August 10 — On the past four days there was considerable oozing of blood. The socket was packed with snake venom two or three times every 24 hours. The socket appeared to be filling in nicely from the bottom with granulation tissue. There was a small area of bleeding on the posterior gum. HB. 58%. The patient was still on liquid diet, and was sleeping well. There was a slight fever to 100°. He was started on Blaud's pills—5 grs. t.i.d. which was gradually increased to 15 grs. t.i.d.

August 17—No bleeding occurred for three days. All the packing was removed and the patient used normal saline mouth wash. The socket was filled with a firm clot. He was allowed up and had only slight degree of fever—90°. Given Ferri et amm. cit. 50% sol. 1 dram t.i.d. HB. 56%. R.B.C.—3.3. He left the hospital on the 19th of August.

*Conclusion:* In controlling haemorrhages, the blood transfusions were of first importance, especially those of blood taken from women donors. Packing socket with snake venom was a great secondary help. In packing the socket we found that the best results were obtained by placing a firm pledget of cotton the size of the mouth of the socket, saturated with warm snake venom, over the socket, without pressure. Over this was placed a folded piece of dry gauze slightly larger than a postage stamp and the patient was instructed to close on it. Thus the pack was held firmly in place and the patient was not allowed to talk so that it was not disturbed.

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# *Economics of Dentistry*

by H. N. BEACH, L.D.S., D.D.S., Pembroke, Ontario

IT SEEMS to the writer that in the future considerable thought should be given to the economics of dentistry.

The current literature contains many accounts and opinions of the controversies which occurred in the National Health Conference called by President Roosevelt in the United States recently.

At this meeting the voices of farm and labour groups and Parent Teachers associations were strong in their demands for the meeting of the major "health denials and health needs" of the millions they represent.

The problems of Canada and the U.S. are closely aligned and a similar situation is likely to occur in this country.

Anyone who practises dentistry in rural and suburban districts especially, must be constantly reminded of the inability of the larger part of the population to pay the usual fee. Yet these people need dental service just as much and usually more (because of neglect) than their more fortunate neighbors.

When a group of individuals are capable of rendering a much needed or necessary service of which a great mass of the people cannot avail themselves, that group becomes an object of resentment for the masses.

It is not my intention to suggest that the profession of dentistry is as yet or is going to be the target of a resentful public but you can see the posi-

tion towards which a lowered national and international economic structure unwittingly moves us.

The public continues to demand more and more of "the government," forgetting, of course, that they, the people, must bear the cost in the end. Thus it is reasonable to suppose that some political party currying popularity may, in the not far distant future, offer the people a government-operated plan of public health, including dentistry. This might be hailed with delight by the laity but would be the doom of the professions, and the people themselves would inevitably suffer through the lower standards of service.

Far be it from me to suggest that we should give of our services indiscriminately in order to retain or obtain the goodwill for the profession of the low income group. But perhaps we could be one step ahead of possible demands with some form of group dentistry.

This is not to be confused with State Dentistry. Such a solution is farthest from my mind. In fact I do not presume to offer a complete solution, but one can see the trend of modern economy. These are days of group activity. Witness the growth of group insurance and the group health associations which provide medical care in several of our cities. We should be, and I believe are, ready and anxious to render a service and solve a situation which the profession itself is best qualified to solve if it will make the attempt.

The health needs of the public are matters which should be in the mind of every dentist and every physician in the country. Indeed the state and thus the public has borne part of the cost of our education.

Should the people, in the event of an acute lack of care, desire a change in the system of distribution of health services, then the professions become the target of legislation with disastrous results. Perhaps we can extend our services (with advantage to ourselves also) and avoid a nasty situation. Would a group health plan, including dental services be practicable? It has already been proved that such a plan is practicable in some of the communities where the experiment has already been made.

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# *Report of Chairman of the Committee on Ethics of the Canadian Dental Association*

**(Presented at the House of Delegates Meeting, Vancouver, July 2, 1938.)**

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I WISH to take this opportunity of thanking those responsible for my appointment. I am at a loss to understand why the necessary members to form this committee have not been appointed. Furthermore, I am convinced that the working structure of the C.D.A. needs conscientious study and the formulation of regulations that can be rigidly adhered to in order to meet the needs of its members. As a committee of one, I shall only attempt to write some of my personal opinions.

Ethics is the science of the ideal human character, the development of society and the individual by emphasis upon

the humanitarian impulses of men and women and by the holding up of a high moral standard of conduct; the determining of the principles by which conduct is to be regulated having to do not merely with what exists, but with what ought to exist. Ethics looks at action from the point of view of the community and its interests, rather than from that of the interests of the individual. The intuitive school of ethics lays stress upon the immediateness and universality of the moral judgment passed by each man's conscience.

The proper practice of Ethics depends a great deal upon hereditary tendencies, youth environment, kind of education, and the degree of ethical understanding one has conscientiously developed during his years of activity.

The duty of dental practitioners to each other demands the practical application of a well-balanced mind. Could we not at least think of each other as we would of a true, thoughtful friend, the kind of friends who enjoy each others company and guard every utterance which would in any way jeopardize the friendship we value so highly?

Considering the duty of a dental practitioner to the public, I realize the many pitfalls of a busy practice and I wish to state that some dentists quote fees as fifteen, twenty or twenty-five dollars for a certain piece of work or for services to be rendered, giving the patient the idea that he receives that for which he pays. To what extent we should charge more or less than some brother practitioner is problematic. I am definitely convinced that whatever service we accept the responsibility of rendering, should demand the best application of our ability, irrespective of our charge.

Our moral and intellectual conduct with the public must be of such a nature as to demand its respect and understanding of what our profession stands for.

As to the duty of every dental practitioner to his family, we all know and should respect the family moral and well-being code of ethics. This phase of our life is so essential to our own happiness and comfort. The fees we charge should be in keeping with the ability of the patient to pay, and if possible, to balance our budget with provision for our wife and children. There is danger to our profession in demanding excessive fees, as in contrast to fees considered below what we collectively believe to be a minimum fee.

There are many experiences in the practice of dentistry which are unpleasant. An active group of men could in a friendly way, point out these acts, deeds and misgivings which appear unethical to the profession.

Our problem of ethics could be greatly simplified and more easily solved if we would search that something within us, that conscious urge to do what we at least believe to be right, and if we remembered to do unto others as we would have others do unto us.

Fraternally yours,
*(Sgd.)* G. R. HENNIGAR.

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*Organized dentistry should be prepared to direct its own destiny and design its own pattern for the future. It should write its own program, have voice in division of funds, in scope of service and remuneration of practitioners. But society will not permit this direction of destiny to institutions that are deaf to the past and blind to the future. Trends issue their challenge. Time knocks at dentistry's door.—Herbert E. Phillips, Chicago, in Journal of the Michigan State Dental Society.*

# *Carcinoma of the Mouth* *

by SAMUEL W. LESLIE, M.D., D.D.S., Toronto, Ontario

THE purpose of this lecture and clinic is not to bring forth any new or startling discoveries nor to enlarge upon new cancer cures. It is our intention to demonstrate to you, as dentists interested in general preventive medicine, a number of actual cases showing different forms and types of carcinoma of the mouth from its early incipient stage to the full-blown terminal picture. In order to emphasize this to you today, actual cases will be shown which will demonstrate the curability of cancer.

One of the most serious problems confronting the medical and dental professions is that group of diseases which can be grouped under the broad heading of Cancer. At no time do we hear of any authentic case where the patient has had a spontaneous cure. No patient develops an immunity to these diseases, although some races may have a natural localized resistance against the formation of certain forms of new growth. Modern medical science has also advanced the life span to such an extent that we now have increased numbers of our population reaching old age, and with this increase in longevity comes a definite rise in the incidence of cancer cases, because this disease is more apt to develop in the aged. This latter fact, however, should not be viewed with false security because cases of cancer of the mouth have been reported in the age group of the adolescent.

In speaking of Cancer of the Mouth, it is my firm belief that the average dentist's conception of his sphere of activity is too narrow. The dentist should not only be trained to observe the normal and abnormal conditions which exist in the teeth and their investing structures but that his field should encompass:

(a) the face; including the forehead and nose.
(b) the lips; both the external and buccal surfaces.
(c) the tongue;
(d) the salivary glands
(e) the teeth, gingival mucous membrane and jaw-bones.
(f) Careful notes might also be kept on the patient's exposure to the weather. No part of the body is so exposed to the rigours and changes in weather conditions as the face.

From the above list it will be noted that a dentist must apply his keen powers of observation in order to differentiate between the normal and deviations from the normal. There is no person in the medical field today who comes in contact with more so-called normally healthy people than the dentist. Hence, knowing what the normal looks like from being in such close proximity to it day in and day out, it is of vital importance that the dentist becomes acquainted with some of the abnormalities which may occur, in order that he may recognize them early.

The successful results obtained in the treatment of carcinoma depend primarily on a definite and clear diagnosis. It is very important to be able to distinguish, very early in the disease, between benign and malignant growths. It is not only important that dentists be able to visualize the disease from its earliest recognizable manifestations

* Lecture and clinic presented at Ontario Dental Association Convention, May, 1938.

SAMUEL W. LESLIE

but it is also well for them to see the later stages of the course it follows. This the average dentist lacks, the opportunity to follow-up. Hence the cases which will be presented at the end of this lecture will demonstrate to you how to make an early diagnosis, and the result of applied adequate treatment.

The treatment of cancer is now established quite definitely and it is limited to a number of accepted methods which are used either separately or in combination. Amongst these are surgery with or without the electro-cautery and the application of x-ray and radium. Various injection methods about which we hear now and again have as yet not been placed upon a definite scientific basis. Quite frequently also an infectious condition is superimposed upon the cancer growth and then the treatment of the infectious condition must also be considered.

At this time it is very important to emphasize that co-operation and team work is of the utmost importance if this scourge that takes many lives each year, is to be defeated. The dentist, physician, surgeon, biochemist, physicist and biologist must all work as a team. Individual differences of opinion must be eliminated, and we must all unite in the fight against cancer.

The dentist should always be on the alert for abnormalities on the face and lips. Cancer of the skin and the face is more frequently encountered in people who lead an outdoor life. This, as I have mentioned before, is no doubt due to the constant changes in weather conditions. Thus, New, of the Mayo Clinic, draws attention to the greater incidence of carcinoma of the lip in farmers. It also seems to be generally accepted that blond individuals are more likely to develop malignant conditions of the skin. Thus skin carcinoma is almost unknown in the negro race. Heavy smokers appear to develop carcinoma of the lips and buccal mucous membranes more frequently. This however is not always true, because of individual differences in susceptibility. One of the patients here today does not drink alcoholic beverages. The most common condition of the face which dentists may note are some small keratotic lesions which can frequently precede for a considerable length of time, the formation of basal cell epithelioma commonly known as rodent ulcer. Con-

**Figure 1**
*A case of Giant Hypertrophy of the gums found in a patient with early signs of a blood dyscrasia.*

stantly recurring and poorly healing cracks on the lips or angles of the mouth should be carefully watched.

In the oral cavity itself the dentist should be constantly on the lookout for unhealed ulcers either on the mucous membrane or on the tongue. Broken down and jagged teeth should be removed early, not only because of irritation per se, but because these conditions tend to cause bacterial inflammatory changes. There is no doubt that prolonged chronic irritation of chronically infected source, such as untreated pyorrhea, can cause an increase in the incidence of oral carcinoma. While tartar accumulation itself may not cause carcinoma of the gum tissue, yet it does promote a low grade inflammation of the gums. This may lead to ulcer formation which may eventually undergo malignant degeneration in susceptible people.

The palate should also be carefully watched for any irregularities. Ulcers occasionally form under dentures over the "hard area" or the torus palatinus. These protuberances when causing these changes, should be removed not only because their removal is a prophylactic measure against tumour formation but because in many cases the denture will be made to fit better.

Leukoplakia has been definitely established as a forerunner of malignant degeneration. These areas are frequently overlooked in examining the mucous membrane of the mouth and tongue, and an actual case of this will be shown in a few minutes in order to impress upon you the necessity of early diagnosis. The salivary glands should be carefully examined. Palpation of the glands is very important. Retention cysts due to obstruction of a duct, are quite frequently formed in the sub-maxillary and the parotid salivary glands. A blocking of the sub-lingual gland however is most common because the lumen has a

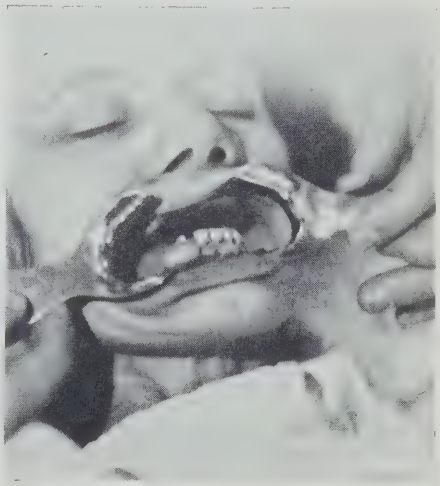

**Figure 2**
*A case of Giant Cell Epulis.*

very small caliber. The parotid gland is the one most commonly affected by new growth. These may be grouped as adenomas, mixed tumours, or carcinoma. Swellings of the parotid glands usually occur just a little anterior to the lobe of the ear, (as will be demonstrated to you on a slide,) and the dentist should be on the lookout for these swellings. A few conditions of importance in dental medicine might be mentioned here in passing.

Pigmentations of the gums and buccal mucous membranes are also of importance, since these discolourations, if noted, may be one of the earliest signs of Addison's disease or lead poisoning. A smooth glossy tongue with atrophy of the papillae may be the first signs of pernicious anaemia. Along with this may be the complaint on the part of the patient, of a sore tongue or that he is unable to wear the dentures that you have so conscientiously constructed. These complaints may precede by many months the actual development of the true blood picture of pernicious anaemia. The common condition of epulis will be more easily described by means of a slide.

One should watch for galvanic burns due to electro-chemical changes in the oral cavity. These are brought about by an electric current being produced by fillings of different metals in various parts of the mouth. These burns have been described as forerunners of indolent ulcers of the tongue and oral mucous membranes. Slides demonstrating this condition before and after the removal of the filling will serve to impress this upon your minds.

To evaluate the abnormal tongue, familiarity with the normal is indispensible. Note particularly colour, fur, pallor, papillae, evidence of inflammatory changes, blood vessels on the under surface of the tongue. Form, size and

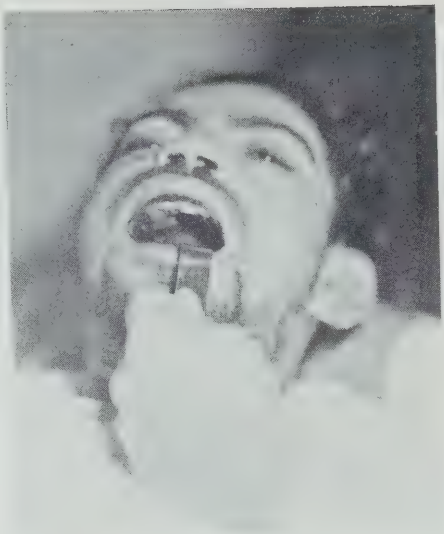

Figure 3
*An advanced case of Carcinoma of the maxilla.*

humidity are also of importance. Textbooks, referring to the tongue, usually describe acute, chronic and Moeller's glossitis, black tongue, leukoplakia, syphilis, tuberculosis, mycosis, and tumours. The tongue may be narrow and pointed at the tip as noted in nervous individuals, or large and flabby with a thick and rounded tip and with margins marked by the teeth as found in cases of hypothyroidism. In nervous individuals the tongue is quickly protruded and quickly withdrawn. In the phlegmatic its motions are sluggish. In old age the tongue is usually coated and less moist than in younger individuals. The tongue becomes dry and even glazed at onset of the slightest ailment with fever.

At this time I wish to stress a point of great importance to the general practitioner, that is the evil effect and the detrimental influence on mucous membranes that the constant use of local and irritating drugs have. In particular is this true of silver nitrate and phenol,

which the dentists are prone to use only too often. By this I do not mean that these escharotic and caustic drugs should not be used at all, because there are numerous benign conditions which are readily cured by their application. But where there exists a granulating surface or an indolent and poorly healing ulcer which does not show signs of healing after two or three applications, over a period not longer than ten to fourteen days, this type of treatment should be definitely discontinued. Unfortunately many case histories of oral carcinoma bear witness to the fact that they had previously been treated with local caustic drugs over a period of many months. Frequently also an insufficient and incomplete excision of a small growth may arouse an indolent or quiescent condition and cause it to blossom forth into a full-blown cancer.

In conclusion I wish to point out that educational propaganda over a period of years on the part of the medical and dental professions has caused the public to become "cancer conscious." Unfortunately they have been impressed by its "incurability." Because of modern methods of treatment and the stress placed on early diagnosis of carcinoma, this state of affairs is now changed. The lay public as well as the dentists must now be educated as to its "curability" particularly in the fields outlined in this lecture. Let me now quote to you the concluding sentence of a lecture by Mr. Cecil Rowntree, senior surgeon of the Royal Cancer Hospital of London England, "In fact, give us a case of cancer in any of these situations in a reasonably early stage, and we will now guarantee its complete and speedy disappearance."

*398 Bloor Street West.*

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# *Final Report Committee on Benevolence Fund of the Canadian Dental Association*

**(Presented at House of Delegates Meeting, Vancouver, July 2, 1938.)**

THIS committee was appointed in December 1932, to investigate the feasibility of raising a Benevolence Fund for the Canadian Dental Association. The executive has done considerable work and has secured information as to how such a fund might be established if all the provinces co-operated, and if we could have the tangible proof of this co-operation by the official dental governing body in each province endorsing the scheme.

In our last report to you, 1936, we stated that all provinces, except Prince Edward Island and Ontario, would give us their official support. Prince Edward Island was not in favour of the fund, and Ontario reported that as it had its own provincial benevolence fund and had assumed certain obligations, it could not withdraw its fund and suggested that each province establish its own provincial fund. At the last meeting of the House of Delegates in 1936, this resolution was passed:—

"That the Canadian Dental Association approve the inauguration of a benevolence fund in connection with our

Association, and that we endeavour to raise this fund as quickly as possible in all provinces willing to participate, and that the fund be utilized in those provinces that do participate."

However, your House of Delegates had scarcely adjourned when the following was received from Dr. Forest, Registrar of the College of Surgeons of the Province of Quebec:

"Yours of October 2nd, together with the report of the Benevolence Committee of the Canadian Dental Association, was submitted to our Board at its last meeting, and I have been instructed to inform you that for the time being, at least, our province cannot contribute, as we are already having enough difficulty elaborating a plan to establish such a fund for the dentists in our province."

There are about 3800 dentists in Canada, of which about 1800 are in Ontario, 800 in Quebec and 30 in Prince Edward Island. These three provinces cannot promise us any definite support, and when Ontario also could not promise its co-operation, the Alberta Board considered the scheme not feasible. This leaves only 1000 to 1200 dentists in those six provinces which we can count on for definite co-operation, and these are widely separated geographically, east and west.

Referring to our previous report of 1934, you will note the experience of the American Dental Association in its fund, and the Ontario Dental Association in its fund, was that the total contributions received from dentists, dental laboratories, supply and pharmaceutical companies averaged a dollar contribution from about twenty-five per cent of their members, and this was the experience of long established funds. A new fund, scattered over a divergent Canada and having to be "sold" to the dentists, could scarcely hope to equal this amount.

Referring again to the resolution of the House of Delegates, 1936: "That we endeavour to raise this fund as quickly as possible in all provinces willing to participate and that the fund be used in those provinces that do participate," the Executive believes that such a plan would not be economically feasible in view of the small number of dentists and the comparatively large expense for seals, postage, etc., and also such a scheme is contrary to the accepted views of other somewhat similar schemes such as Dominion unemployment and sickness insurance acts, where it is considered imperative that all provinces should co-operate.

The Executive believes that the idea of establishing a Benevolence Fund was worth considering, but unfortunately it is not feasible at present. Perhaps at some future time the interest in the C.D.A. may be strong enough to establish it, or perhaps the House of Delegates can find an executive which resides nearer the cities where the House of Delegates usually meets and which can, by meeting with the House of Delegates, eventually work out this scheme to a successful issue, or which can approach the problem from some other, more feasible angle.

The Executive believes it has done all that it can at present, and in presenting this report, respectfully asks to be discharged.

Executive of the Committee.
Lethbridge, Alberta
L. T. Allen, *Chairman*
J. S. Stewart, W. P. Craig.

# *Report of Committee on Indian Affairs of the Canadian Dental Association*

(Presented at the House of Delegates Meeting, Vancouver, July 2 ,1938.)

I PRESENT herewith my report as Chairman of the Committee on Indian Affairs.

There are 108,000 Indians in the various Provinces of Canada, as follows: Nova Scotia 2000. New Brunswick 1700. Prince Edward Island 225. Quebec 13,000 of whom 10,000 are on reserves. Ontario 30,000, of whom 10,000 are in the Northern districts and somewhat inaccessible from a dental standpoint. Manitoba 13,000. Saskatchewan 11,800. Alberta 13,000 of whom 10,000 are on reserves, and British Columbia 23,600. Ontario and all Western Provinces have Indian settlements which are hard to reach with dental services.

Indians receive more free dental services than any other class of our people, and yet these services are very inadequate. The truth is that the Government is unable to provide either adequate medical care or dental care without materially increasing the burden on the taxpayers. I have had extensive correspondence with the Chairmen in the different provinces and in some provinces have had very active co-operation.

The Director of Indian Affairs, Dr. McGill and the Medical Superintendent, Dr. Stone, have been sympathetic to our suggestions, but plainly do not see any hope of extending any increased dental services to adult Indians. In regard to the children, however, they are anxious to increase dental services as soon as possible and will do so as funds are made available.

Dentistry is considered a specialty of medicine, and therefore all dental services are under the supervision or at the request of the medical doctor. When extractions are requested, the doctor or the agent generally sees that the request is granted if there is a dentist near, except in inaccessible districts, where the need is really greatest for that reason. In some places, dental services are provided at Treaty time, when a number of Indians are assembled in one place.

Requested extractions are done when possible for all Indians but fillings are restricted to the children, mostly in the better schools. Indians requiring dentures are required to deposit one quarter of the cost with the Agent in advance, the Department paying the other three quarters.

There are some places where more adequate dental service is really a humane necessity, and it will be necessary for the Chairmen in the various provinces to get specific information about these districts and then through the general chairman, make specific requests to the Department. I will continue to strive to have this procedure carried out in as many places as possible.

The Department is planning a health treatise for the native language publications which will contain a dental section. The Director would welcome suggestions for this section which he in turn would have translated into the almost unbelievably elementary form necessary for these people to read.

Candidly, I do not believe that the Government is able to provide full dental services for the Indian population any more than they could for all our

people at the present time.

The general health of our Indians is progressively becoming poorer, due to a combination of circumstances, and such diseases as tuberculosis are making rapid progress among them. I have tried to impress the Department with the necessity of eliminating oral sepsis as one step in combatting this decline in health on the principle of increased resistance to disease in general. Agents and missionaries in many districts complain of the prevalence of septic mouths and the need for dental services and health education for the Indian.

In closing, I should like to express appreciation to the Chairmen in the various provinces for their co-operation and to mention especially the name of Dr. Roy Bier of Winnipeg who supplied me with a report on sixteen different districts in six agencies in Manitoba.

HOWARD W. MACDONALD, *Chairman,*
Saint John, New Brunswick.

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## *Future of Periodontia*

*Dentistry will some time clearly become a "branch of the healing art, coequal to a specialty of medicine." Periodontists should lead the way, for the periodontist, more truly than even the oral surgeon, practises the healing art. Because of this fact, the periodontist, if he works with nature, induces healing of diseased tissue,—while the oral surgeon must remove the diseased parts in order to get rid of the disease. Both the periodontist and the oral surgeon, however, work under the philosophy of* vis medicatrix naturae. *On the other hand, the dentist who fills a cavity or constructs a bridge or a denture necessarily works under the philosophy of technology. This is no disparagement of that procedure. Once the cavity has developed there is no other way of "saving the tooth." The unfortunate thing is that filling cavities does not lead to any constructive thought as to their prevention, and it is for that reason that dentists so consistently think of prevention of decay in terms of filling small cavities to prevent their becoming big ones.*

*Periodontia must bridge this gap between technological dentistry and biological dentistry, and then it must bridge the gap between all dentistry and medicine. It is here that I see the future of periodontia. We have learned in the past twenty-five years to bring health to diseased mouths. I now see periodontia going on to trace back to their inception the factors which we know are responsible for periodontal disease. The prevention of periodontal disease in years to come will not belong to the periodontist, it will belong to the dentist of the future who will so supervise the general health and the oral health of his patients from earliest childhood on, so that periodontal disease and dental caries, too, will never occur. And, leading up to that day, we shall see the periodontist moving closer and closer in his philosophy and in very fact, to the physician. Signs are not lacking that as he moves in that direction, the physician will not only lend him a helping hand but will welcome him into the world's noblest fraternity, that of the healing art.*

*EPILOGUE*

*A sage once said: "I have often regretted my words, but I have never regretted my silence."—Paul R. Stillman, Longwood, Florida.*

# Practice Management

The Journal Committee has found an increasing demand for a Section in the Journal on "Practice Management". You are invited to send your suggestions on office management and practice, or concise articles on some phase of this subject to the "Editorial Office," 314 Somerset Building, Winnipeg.

## *The Dentist's Health**

by WILLIAM A. O'BRIEN, M.D.
*Associate Professor of Pathology and Preventive Medicine, Medical School, University of Minnesota.*

THE dentists, in common with other professional groups, have certain health problems. It is impossible to do more than generalize about this question. In many ways, the problems of physicians and dentists are similar as the tendency in medical practice is toward more and more time spent in the office. Dentistry is a sedentary occupation. It involves a certain type of stress and strain which has a tendency to bring out degenerative conditions. Because of the various materials handled by dentists there is the problem of occupational dermatosis. The close contact between dentist and patient also increases the possibility of transmission of disease spread through the respiratory tract. Because of the long hours spent in office practice, few dentists know how to live a normal balanced life.

Heart disease is the commonest cause of death today. Physicians have an unusually high death rate from degenerative heart disease. I am not familiar with similar studies made on dentists. Degenerative heart disease is due to stress and strain. In younger subjects rheumatic infection is the common cause of heart disease. In middle and late life hypertension and coronary sclerosis cause most of the cases. There is an hereditary factor in these conditions, but the high professional incidence suggests an occupational influence. Although most people think of stress and strain as something physical, the factor of which we now speak is one chiefly of the emotional field.

Periodic health examinations are of great value in detecting early signs of degenerative heart disease. Elevation of blood pressure exists for a long time in the average patient before signs of cardiac failure appear. It is true that coronary sclerosis may not give evidence of its presence until there is interference with the circulation. In the majority of instances there are minor complaints which are not correctly interpreted by the patients until real circulatory changes occur. Dentists, like other professional groups, especially physicians, seem to find it difficult to have an annual health examination. Perhaps we are too close to these problems to appreciate how much good can be done by detecting them before they give symptoms. If a faulty philosophy of life is responsible for the emotional factors, then certainly physicians and dentists alike should be able to face the facts and change their manner of living.

The most universal illness is the com-

* This splendid article on 'Health' is published in this section of the Journal, since a dentist must learn to manage his own health problems before he can hope to manage the many other problems in practice which confront him.—Editor.

mon cold. Evidence points to a virus as the cause. There are various predisposing factors, but in the final analysis, if we do not come in contact with the agent which causes a cold, we do not contract the infection. It was the hope of public health officials that air conditioning would help those who had to spend long hours indoors to avoid this infection. One of our large insurance companies owns two office buildings. One is an old building, and the other a new one equipped with modern air conditioning devices. A study made of the incidence of respiratory infections in employees in the two buildings did not show any differences. Many professional men feel that absence of physical exercise is an important predisposing factor. We have no proof that this plays a very important rôle.

If a dentist is caring for a patient with a cold, he runs a good chance of acquiring the infection providing the cold is in the contagious stage and he comes in contact with sufficient virus to produce the infection. It is a common sense practice to urge all patients with colds in the early stages to defer their dental visits until the cold has subsided or it has become non-infectious. It is believed that the early stages characterized by watery secretion are more contagious than the later stages in which the secretion is thick and mucoid. The end of a cold is usually the result of secondary infection by organisms normally present in the nose and throat.

There has been over-emphasis on cold prophylaxis through careful screening of coughing and sneezing as the hands can transfer the virus very easily. Everyone with a cold should be very careful to wash his hands after coughing, sneezing or blowing the nose. The ordinary handkerchief used by a patient with a cold is an important source of infection. Dentists undoubtedly contact these infections through the hands as readily as through droplet material in the air. As considerate people, dentists should also remember their patients and not work on them when they have an infection. The common cold is not a serious illness. No one has ever died from a common cold. It is the complications which cause the difficulties.

### Healthy Hands

Occupational dermatosis is becoming better known. I refer to those skin changes which in the past might have been called eczema. It is true that they belong to this group, but it is much better to consider them as secondary rather than due to a blood or internal condition. When a dentist has an occupational dermatosis he should co-operate with his physician in detecting the cause. It is possible to place the suspected agent on the skin of the arm and secure it in place by some retaining device. Almost anything can cause a dermatitis, so that everything should be suspected until the cause is determined. The application of local agents may be helpful in clearing up the secondary infection, but not in eliminating the condition.

The same health rules should apply to dentists as to other groups. When we are young long hours of work do not exact the same toll as in later life. Sooner or later, every professional man must realize that there are only a certain number of hours in each day in which he can make a living. He may prolong his working hours for a time but eventually he must adopt a normal, balanced program. Regularity is very important. There is no benefit to be derived from chafing at the type of work we are doing. The professional men who accomplish the most accept their problems and try to plan for maximum efficiency.

If dentists in their younger days had a definite program of exercise, they may continue it with certain modifications,

depending on their age and physical condition. Too often professional men completely abandon the exercise program until later in life. There is nothing to be gained by suddenly plunging into a violent routine; in fact, only harm can result. If a dentist feels the need for more exercise and he has not been accustomed to taking it, he should start with some simple form, such as walking. After he has become accustomed to this, he should adopt a more active program. In no event should he exercise to the point of excessive fatigue. Many persons in sedentary occupations expect too much from exercise. It is not a cure-all, and many who feel its need actually should be resting.

### Weight Factors

Overweight dentists, just as overweight physicians, should correct the condition as soon as possible. There is much to be said for the prolongation of life through weight control. Insurance companies know its dangers. One may carry excessive weight up to the age of forty-five without apparent harm, but after this age there is a definite danger in overweight. Most overweight individuals continue their eating habits from earlier and more active days. If one is excessively overweight, a physician should be consulted before a reducing program is started. For the average individual a reducing diet is not necessary. It is a simple process of eating less rather than eliminating any special food.

Many successful professional men have good sleeping habits. If one may judge from various reports made of professional people, they are the exception to the rule. One may sleep too much or too little. There is no rule-of-the-thumb for sleep. Dr. William J. Mayo has found it desirable to go to bed each night at such a time that he can get up the next morning completely rested.

This has been a lifelong practice with him, and he assures me that it is his most important health message. Many suffer with insomnia. The usual cause is fear of being unable to sleep. One should not take drugs unless absolutely necessary as the majority of the victims of insomnia can cure themselves. After a day spent in the office, one should get away from thoughts of the job. Anything which will accomplish this is desirable, but everyone must work out his own solution.

Gastro-intestinal complaints are very common in sedentary people. The majority are not due to organic disease. If one who enjoys a good stomach, later develops symptoms referable to the gastro-intestinal tract, an immediate medical examination is indicated. In spite of our efforts to educate the public on the importance of this action, professional men delay just as long as the uninformed in seeking medical relief. Constipation is an unnecessary disorder. The American people spend enough for unnecessary cathartics to support all of our hospitals without further financial assistance. A simple addition to the diet of cooked fruits and vegetables with a little exercise to improve the tone of the bowel will cure the average case of constipation providing the patient does not continue to use cathartics. The majority of patients with constipation continue to have this complaint because the cathartics are the cause.

### Personal Cleanliness

There is no particular health value in bathing. Some years ago, Dr. William Evans, whose health column was printed in one of our local papers, was asked by an anxious mother how often she should bathe her child for health's sake. His reply was very scientific, for he assured her that she should bathe her child once a week for health's sake and three times more for society's sake. A refreshing

bath after a busy day at the office is just as important in eliminating fatigue as a morning bath is in starting the day right. There is no particular virtue in cold baths. A luke warm to warm bath is just as efficient. The hot bath in the evening may be an important means of inducing relaxation and sound sleep. Elimination of perspiration odours is now possible through harmless applications.

Dentists, like physicians, concern themselves too much with their work, when they should be doing something else. I doubt that we will ever be able to eliminate the "meeting" evil. I realize that the hours of the dentist's day are important from a professional standpoint, but many meetings could be held in the day time instead of at night. As students, we divided ourselves into two groups—those who studied during the day and those who waited until the evening. All professional men waste a great deal of time when they could be improving themselves.

It is rather difficult to believe that hobbies are necessary for everyone. One should cultivate outside interests so that when the time comes for him to retire, he can have something to occupy his time. There is no profession which is interesting enough to occupy all of one's time and attention. Vacations are necessary for normal living. A vacation may be taken at one time or for shorter periods at repeated intervals. There are many professional men who never take a vacation. There is very little to be gained from such a program. The increased zest with which we attack our problems after a return from a real vacation is indication enough of the value of the practice. Vacations on the job are the rule for many well-balanced individuals. It means doing something entirely different so that complete physical and mental change is accomplished.

### Take Time Out

At birth, each individual has a certain life expectancy. This is largely a matter of heredity. Public health achievement is mainly along the lines of prevention of contagious disease in the young. As a result, the average span of life has been prolonged for the group but not for the individual, for the limit was fixed before we were born. When our bodies begin to wear out, certain modifications of our living program will prolong their usefulness. Every professional man should plan for the time when his earning power will decline because of aging factors. Sensible men do not retire, but change from their vocation to their avocation. Efficient living demands that we sleep a certain number of hours each night, eat just enough food to maintain our weight at a desirable level, keep our bodies clean and avoid contagious diseases. Most professional men find it difficult to adopt a sensible attitude toward work and play. Those who discover the magic secret are more efficient than those who are too busy to take time out to live. Periodic health examinations will give us the necessary information for which to plan ahead.

Certain conditions which interfere with the efficiency of the dentist are: faulty vision, tremor, x-ray burns, novocaine dermatitis, varicose veins, hemorrhoids, arthritis, injuries of feet, knees and hips, gastric ulcer and nervous exhaustion. Some of these are due to the occupation; all interfere with performance. As we grow older, our bodies lose their elasticity. This is true of the eye so that sooner or later some correction is necessary. There is one type of visual error in which glasses can be discarded in later life, but this is the paradoxical result of aging rather than the effect of any special health program. After forty-five in most individuals presbyopia develops and glasses are necessary. The eyes should be checked at regular intervals by a competent physi-

cian who practises this specialty.

Tremor is a difficult subject to discuss because so little is known about it. There are some varieties which are due to disease of the central nervous system, but some appear in its absence. There is a large functional element in tremor which should be investigated before the professional man gives up hope. X-ray burns are the result of carelessness and dentists who take chances may expect them sooner or later. There are certain treatments which can be applied to the burned area which may be of help, but if the condition is severe, amputation may be necessary. Novocaine dermatitis has been previously discussed under occupational dermatosis. Varicose veins may develop in individuals who stand on their feet a great deal. Overweight brings them on. There is also an hereditary element which seems to operate in some instances. Varicose veins can be obliterated by the injection of sclerosing agents or operation. They frequently cause foot troub'e. Hemorrhoids are a form of varicose veins around the anus and rectum. They can be removed by injection or operation.

Arthritis is a disabling affliction. After all the infectious possibilities have been eliminated, the disease may still be present. Time is an important factor in its cure, for arthritis is essentially a self-limiting disease. There is also a functional element. All sufferers from arthritis profit by a change of scenery or new treatment. If the affected joint is kept at the best possible functional position good results may be expected. The stiffness of advancing years may be confused with arthritis. We can avoid some stiffness by keeping ourselves limber through simple exercises but heredity is the important factor in deferred old age.

Injuries of the lower extremities and the hands are perfectly obvious causes of inefficiency. High tension individuals are prone to develop stomach trouble and nervous exhaustion. An accurate diagnosis should be made followed by appropriate treatment.—*North-West Dentistry.*

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## *Conventions*

Midwinter Meeting of Chicago Dental Society, February 13-16, 1939.

Seventy-First Annual Meeting of the Dental Society of the State of New York, Hotel Pennsylvania, New York City, May 9-12, 1939.

Western Canada Dental Society, Winnipeg, End of May.

Ontario Dental Association, Toronto, June 5-7, 1939.

American Dental Society of Europe, Lausanne, Switzerland, August 5-9, 1939.

K. C. Campbell, Secretary, 88 Portland Place, London W.1, England.

Australian Dental Congress, Melbourne, August 21-26, 1939.

American Dental Association, Milwaukee, Wisconsin, July 17-21, 1939.

Fifteenth Annual Fall Clinic of the Montreal Dental Club, Montreal, September 27-29, 1939.

# Problems in Practice

Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

## ELECTRO-GALVANISM IN DENTAL FILLINGS:—

QUESTION: Will you kindly inform me whether a bridge made of platinum and white gold, fitting just above two teeth inlayed with gold, can cause an electrolytic action? The area at the side of the tongue adjacent to the bridge is complained of by the patient as producing queer annoying sensations. I should particularly like to know whether such a condition, if prolonged, could be related to the development of a malignant lesion.

ANSWER: Electrogalvanism in the oral cavity between dissimilar metallic restorations is a long established fact. Within recent years, research by different investigators and clinical reports published in various medical and dental journals have called attention to the possibility of annoying subjective symptoms and visible pathologic lesions such as localized ulcers and leukoplakias, with subsequent malignant growths, bearing a close relationship to the electrolysis between dissimilar dental restorations.

The degree of irritation and pathologic change depends on numerous factors, though chiefly on the relative positions which the different metals occupy in the standard electromotive series of metals published in college textbooks on physics or dental metallurgy.

In the case in question there is an upper bridge made of platinum and white gold. Immediately below there are two teeth with gold inlays. Pure platinum and gold are electro-potentially closely related, but in dental constructions for enhancing their value each is alloyed with other agents. Gold is bleached by the addition of nickel or silver. Most dental gold also contains from 10 to 15 per cent of copper to give it hardness. Both nickel and copper bear a comparatively wide electropotential relationship to pure gold or platinum; hence, when they are immersed in saliva, a good electrolyte, the elemental factors for a galvanic current exist.

An approximate measurement of current can be made with a delicate galvanometer or micro-ammeter. The most common symptoms of galvanic irritation in the mouth are usually first felt on the margins of the tongue, or an occasional metallic taste. Therefore, if other possible aetiological factors have been eliminated in this case, it is probable that the patient is being annoyed by electrogalvanism between his dissimilar dental restorations. If this conclusion is correct, the patient will be relieved if one or both constructions are removed and replaced with metals electropotentially balanced.

More explicit information on this subject may be found in:

Lain, E. S.: Electrogalvanic Lesions of the Oral Cavity Produced by Metallic Dentures, THE JOURNAL, March 11, 1933, p. 717.

Macdonald, W. J.: Chemical and Electrogalvanic Burns of the Tongue, *New England M. J.* 211:585 (Sept.) 1934

Lain, E. S., and Caughron, G. S.: Electrogalvanic Phenomena of the Oral Cavity Caused by Dissimilar Metallic Restorations, *J. Am. Dent. A.*, 23:1641, (Sept.) 1936.

—*J.A.M.A. 109:526 (Aug. 14) 1937.—per Bulletin of the Chicago Dental Society.*

**REPLY FROM U.S.A.:**

Injections for blocking branches of the fifth cranial nerve are made by depositing the solution around the nerve trunk, (perineural method); no attempt is made to pierce the nerve sheath and deposit the solution into the nerve trunk, (endoneural method). One of the greatest causes of technique failure is that the solution is not injected sufficiently near the nerve trunk for it to infiltrate the surrounding tissues and epineurium, and to completely anaesthetize the central nerve fibres.

The result following such an injection is unsatisfactory and requires a second injection, which of course, must be carefully made or anaesthesia may not be complete. In some cases following the second injection the additional solution will cause a more complete infiltration of the nerve trunk, and profound anaesthesia, even though the solution is not deposited in the correct location.

It is not necessary to use stronger than a two per cent solution of procaine (novocaine) with a suitable vaso-constrictor in proper concentration to block any branches of the fifth nerve.

There are a few cases reported in which patients have had certain idiosyncrasies which have prevented the successful use of a local anaesthetic even though the tissues in the area involved were in a normal condition. These cases, however, are rare and in the majority of instances where failure has occurred it is either due to the solution injected or to the manner of injection.

*—J. Holden Beckwith, Miami, Florida.*

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## *Dental Health Education*

Dental disease is the most common of all disease conditions.

Dental disease may be the cause of many other serious disease conditions throughout the body.

Dental decay and dental disease cannot be eliminated by dental treatment only but it can be prevented through education, by impressing upon the general public that the responsibility for its prevention rests with them as individuals.

The function of the Canadian Dental Hygiene Council is to educate the public in Preventive Dentistry.

The Canadian Dental Hygiene Council is not an organization of dentists—it is a lay voluntary Public Health organization, working with complete co-operation of every other Public Health organization in Canada.

The Canadian Dental Hygiene Council is financed through a grant from the Federal Dept. of Health and a grant from the Canadian Life Insurance Officers' Association.

There is no other Public Health organization in Canada doing any Dental Health educational work.

The chief aim of the Council is to stimulate interest in Public Dental Health and to bring about co-operative effort between the Department of Health, the profession of Dentistry, and the Public Health and Welfare organizations of Canada, to educate the public in Preventive Dentistry.—*From* 1938 *Report of the Canadian Dental Hygiene Council.*

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*Thanks to our ancestors who for countless years ate generously, when they could get it, of beef, beer, cheese, potatoes, bread, butter, eggs, pork, milk and any other food which tasted good to them, we have all inherited sufficient strength and stamina to stand present-day dietetic fads, for a while anyway.—Dublin Opinion.*

# The Forum

## • DENTAL PRACTICE IN CHICAGO

by EDWARD J. RYAN, B.S., D.D.S.,
Evanston, Ill., U.S.A.

(Excerpts from the Jour. of the A.D.A. and D. Cosmos, Sept., 1938)

THE Economics Committee of the Chicago Dental Society, in an attempt to determine the impact of economic forces on dental practice, has made a study of dental incomes in Chicago for the years 1932 to 1936 inclusive.

For the three years 1932, 1934 and 1936, the average gross income of dentists in Chicago was $5,547.32; the average net was $3,288.92, and the average expense was $2,258.40. It appears, then, that the expense in dental practice is 40.7 per cent.

This whole body of response might be summarized in a few general statements:

1. Dental income rises and falls inexorably with national income. Dentists prosper when the country prospers and they suffer when the country suffers.

2. The expense of conducting a dental practice is about 40 per cent of the gross income.

3. Most of the dentists who answered the questionnaire believed that the technique of modern merchandising, either paid or free publicity, was a means of bringing economic improvement to dentists. Not one of these men suggested how this advertising was to be paid for, and not one apparently saw the grave danger that by adding the costs of advertising to the existing costs of dentistry, we could easily be plunging ourselves headlong into a situation in which all sorts of criticism would be directed against us by social reformers and legislators. It is a truism that bears constant repeating that the ultimate consumer always pays the cost of advertising.

4. Only seven dentists suggested that programs for the child had economic advantages; only seven dentists suggested that the Chicago Dental Society should engage in dental health programs in the schools. If we as a profession are so indifferent to the source of our supply of patients, it is a discouraging commentary on the level of our understanding.

5. There is an undercurrent that has not yet taken on the note of alarm. It would suggest that dentists are prepared for regulatory schemes as far as fees and hours are concerned. This means that the dental society, in the minds of some, should take on the characteristics of a trade union in which collective bargaining and solidarity of demand can be practiced; or, worse, that there is a group of men, both within and without dental organizations, who might be receptive to the overtures of trade unionists to organize unions among professional workers. Finally, it is possible that this group of men who are flirting with the idea of minimum fees and maximum hours might find promises of the state itself for salaried positions greatly to their liking.

6. Men who have met the trials of dental life know that they were unprepared for them. They recognize a gap in their dental training. They believe now that no dental course is complete without training in economics.

7. Finally, let us attempt to answer the question, "What is the status of dental practice in Chicago?" It is probably very much the same as it is elsewhere in the United States, no better and no worse. It rises and falls with the great thermometer that indicates the nation's economic health. The average net dental income

over the last five years would suggest that dentists make about $250 a month in Chicago. All around them, there are other people some of whom make more, many of whom make less. The people in industry, in business, are now being compelled to save for their old age and for periods of unemployment, for their social security. It is not unlikely that one day they will be compelled to save to meet the costs of illness, including dentistry.

With the rich growing fewer and the pressure of taxation on the middle class growing greater, his sphere of activity, as far as economics is concerned, is constantly contracted. More and more people are finding it difficult to include health care in a budget.

This typical dentist in Chicago is apparently not ready to accept any changes in the system of dental practice. He wants it improved, but he still wants it to be private practice. In that, he is, of course, correct. But whatever form of change may come, he does not want the impersonal clinic to take the place of the private practice. He should, however, be prepared to suggest what can be done for the dental health of all the people at the same time that he suggests how the ideals that he values can be maintained.

America is made up of people at many levels of economic life. All these people require the services of dentists. We cannot afford to be heard saying that we are interested only in the dental life of the people at the highest level. The day that we are, we shall be classed as enemies of the people and be subject to their reprisals in the form of legislation.

## • CHILDREN

YOU should not patronize children. They are filled with dignity and are very sensitive about it. They find a handshake more congenial than a kiss. Wise people. They are usually shy. Do not look straight at a child when it comes into the room. Look at the parent and let the child make itself at home. Before examining a child let it get used to the feel of your hand. As you take the history from the parent let the child stand by you and your hand rest upon its shoulder. If the child is old enough let it take a modest part in the conversation. Don't baby-talk it. That is nauseating: all children hate it and only silly parents do it. — *By Donald Bateman, B.M., M.R.C.P., D.C.H., London, London Hospital Gazette, July-Aug., 1938.*

## • SOME FACTS ABOUT NUTRITION AND DENTAL CARIES

by BION R. EAST, D.D.S.,
Harrison, New Jersey.

(Condensed from American Journal of Public Health)

THE slogan "A clean tooth never decays" has been drummed into a believing public by some of the dental profession and commercial interests. Millions of dollars are spent annually for tooth brushes, dentifrices and mouth washes, but the incidence of dental caries keeps apace, among our population at large.

The immediate cause of dental caries, when found, will probably be simple, and it will, when discovered, be of great interest. But from the public health standpoint, the pressing question is what can be done to help alleviate the condition at present.

One study, that of Bunting et al is of particular significance because under controlled conditions 493 children, located in two orphanages, were used to determine the caries preventing and arresting properties of an institutional diet with and without the use of an antiseptic mouthwash, and that of an improved diet with and without the mouthwash. The study covered two years.

Those fed the improved diet with or without the mouthwash had practically the same results. The institutional (unimproved diet groups—with or without

the mouthwash had more new cavities and more active caries than those on the improved diets with or without the mouthwash. The group fed the institutional diet with the mouthwash had more new caries and more active caries than the group fed the same diet without the mouthwash. One might deduct from this experiment that the mouthwash was caries-inducing. The significant result is the marked reduction in new caries in the groups which were fed the "well-balanced, well-fortified" diet. This improved diet had as its base one quart of milk per day, with green vegetables and fruits. The improved or experimental diet was substantially that recommended by Boyd and Drain except that no added vitamin D was given.

McBeath reported studies to determine the caries preventing properties of diets. His investigations were made in orphanages in and about New York City. He noted that improving the diets resulted in a marked decrease in new carious tooth surfaces. He also observed that the dietary factor which was usually most deficient in an otherwise well-balanced, easily obtainable diet was vitamin D. He reports significant success in caries control when various amounts of vitamin D are added to the diets.

Mellanby and Anderson have reported likewise.

In 1934 McBeath reported the caries inhibiting properties of graded amounts of vitamin D when given as vitamin D milk. The vitamin D milk supplemented the institutional or control diet.

Since the publication of the McBeath 1933-1934 work, McBeath and Zucker made further analyses of the data collected during the three-year investigation. In all, over 800 children were observed. The children ranged in age from 8 to 14 years. A notable contribution is observations of the incidence of caries during various seasons of the year. There is, apparently, a marked seasonable response. The highest incidence is during that period that is most remote from the summer. That season of the year furnishing the least sunshine produces the most caries in the controls. The experimentals who received the same diet as the controls but whose skins were exposed to ultra-violet light did not show such seasonal response.

Boyd and Drain report that a well-rounded diet, when actually consumed by normal children, will arrest established caries. The recommended diet is simple. It consists of the following essentials:—

One quart of milk per day.
One egg.
One ounce of butter.
One teaspoonful of cod liver oil (the year around).
Two vegetables (one being raw).
Fresh fruits.

Candy is not prohibited *after* meals. In groups under well-controlled conditions, where the consumption of the food was definitely known, arrest took place in ten weeks' time.

Recently, Boyd, Drain and Stearns reported that experimental groups receiving cod liver oil had less caries than the experimental group without the added cod liver oil.

## Summary

(1) Improving the diets of children living under controlled conditions seems to lessen the occurrence of caries. These results seem uninfluenced by the use of an antiseptic mouthwash.

(2) The seasons seem to affect the appearance of caries—that period most remote from summer having the greatest incidence.

(3) Vitamin D seems to play an important role in seasonable caries occurrence; its presence in the body either as a result of direct exposure of the skin to ultra-violet light or by its inclusion in

the diet, tends to lessen the seasonable variation.

(4) A diet which is caries inhibiting without added vitamin D becomes more inhibiting when vitamin D is added either as cod liver oil or as vitamin D milk.

## • EXCERPTS FROM ADDRESS BY DR. WILLIAM A. GROAT, SYRACUSE, N.Y.

*President Medical Society of the State of New York.*

(Delivered at the 32nd annual meeting of the Fourth District Branch of the society, September 30, 1938, at the Elks' Club, Amsterdam, N.Y.)

OF THE many things which have tortured the world in the recent decade or two, one of the most extraordinary has been the growth of unprincipled propaganda. Propaganda against something or somebody as contrasted with propaganda for something or somebody. Derogatory, distorting, always with an ulterior motive, this type of insinuation has ranged from blackguarding of one nation by another to whispering campaigns against individuals. I am not sure but that the sun and moon have been talked down or up depending upon the exigencies of the occasion.

The medical profession, a division of those devoted to scientific learning, who also are handlers of interchangeable tools of investigative research, alive to the necessity for safeguarding against exaggeration, misconception and muddling, are repeatedly misunderstood as all science is misunderstood, and that is not new. That we should be attacked, however, by those who know better, that half truths, tours of force and all those petty and gaudy methods of the present day propagandist and besmircher should be turned on us, is new and lamentable.

It would be sadder still if we lost our dignity and were to forget our birthright. We may insist upon our right to be heard, our right to be consulted, and our right to decide those questions which through education, vocation and legal authority we are best qualified to elucidate.

The endeavour of the theorists has been to show the necessity for elaborate, costly, bureaucratic governmental control of medicine which would be ridiculously expensive as all such political bureaucratic controls must be. There will always be the Utopian possibility of complete medical care for all the people everywhere. The 20th century actualities are not the result of the shortcoming of the medical profession. The doctor is way ahead of good roads, markets and other conveniences in the wilderness. He has supplied human needs in out of the way places from pole to pole, back and forth across the equator. The doctors' shortcomings are human ones. We are more interested in correcting them than anybody else, for we are and should continue to be self critical.

The barbed hook is slyly baited with the declaration that more government monies would be available as new bureaus are erected to compound the uncontrolled expense. Well, who pays? If we gaily develop this and smilingly expand that, if we encourage the expenditures of governmental money unnecessarily, joining the procession, saying, "We might as well get our piece of it," if elaborate medical care of unproductive types and garish institutional expansion are effected, if hordes of so-called social workers and lay public health meddlers are released with our approval just because we get a little dip out of the pork barrel, we shall no longer deserve to be practising medicine, nor will we be for very long. Are such things to be because we do not realize that somebody must pay, and that we are a part of that somebody?

That a considerable part of the spent money goes to pay for bureaucratic control and political advantages and not for the ostensible purposes of charity or relief is no less depressing than the fact that these false purposes so often are not socially or economically sound and are

not calculated to build a strong, healthy minded and industrious people.

If we stoop to mere controversy and bickerings, to charges and countercharges, the questioning of motives and other cheap but altogether too prevalent claptrap, we in turn lose our perspective and defeat the very objectives for which we strive. It is our business to see that, from a medical standpoint, people get proper service. If we breed vindictiveness and retaliation, if we try to find fault in those outside instead of trying to be better within, it is true, we may injure those whom we oppose, but we are more likely to injure ourselves. Wars are not won by anybody. Always there is loss to humanity. In this particular controversy the loss is to the sick and suffering, the ones whom we are sworn to protect. Arguments cannot be won. Principles, however, can be established. There are large bodies in the so-called welfare and humanitarian groups who have few if any differences with us. Those that have differences are usually doing what they think is right. If we disagree with them it is our duty as physicians to teach and to lead.

There is in the wishes and demands of labour that thread of sincerity and spirit of tolerance which fits well with our ideals for temperance in all things as a road to health and happiness. There is in the attitude of industry a better appreciation of the importance of healthy bodies and minds in groups of employees. They are learning the costliness of epidemic and chronic disease, occupational hazards and all that large group of things which we gather together under the broad title of preventive and industrial medicine. We must co-operate with all these groups. We must gather them together under the banner which we wave and through our leadership which should be easy to create because of our education and experience along these lines, bring them along with us.

Let us be settled in our minds that the exhibition of force, the matching of attack against attack, the parade of our virtues on the one hand and the deficiencies of this or that outside group on the other, will get the world nowhere. The ones that most surely will suffer most in such controversies are, of course, those whom each side claims to be trying to help. Can we better verify the soundness of our position than by keeping out of destructiveness, keeping away from political intrigue and possibilities of gain for the thing alone? There is no better authority for keeping away from preachments and dictatorial pronouncements than to quote the President of the United States, Franklin D. Roosevelt, who as Mr. Roosevelt in a world broadcast appealed to Herr Hitler not so many days ago. Our President's appeal was not as the President of the United States cracking down, it was as an individual appealing to the world for the settlement of controversies destructive to human interests, calculated to deprive great masses of people of human needs, not by bloodshed but by the increase of wisdom. I quote him: "The question—is not of the errors of judgment or the injustices committed in the past. It is the question of the fate of the world today and tomorrow. Whatever existing differences may be, and whatever their merits may be, my appeal is solely that negotiations be continued until a peaceful settlement is found and thereby a resort to force be avoided." — *Saint Louis Dental Society Bulletin. November, 1938.*

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*"Sick bodies are often caused by sick souls."*

## • SOCIALIZED MEDICINE

by JAMES M. HAYES, M.D., Minneapolis, Minn.

THE commotion stirred up recently by such organizations as the Committee for the Cost of Medical Care, The American Foundation for the Study of Medical Care, and the 430 self-appointed physicians, has given the public the impression that the medical profession is divided in regard to future policy.

A study of these various committees convinces one that none of these committees represents the medical profession; none represents the profession who are really responsible for the care of the sick.

The impracticable suggestions of the majority report of this first committee are well revealed in a study of the minority report of the same committee. In their report they include hospital care, nursing care, dental and all other services rendered for the sick under medical care. The public has gained the impression from their report that all this expense is for physicians' fees alone. An analysis of their figures shows that only 29.8 cents of each dollar is paid to the physicians. This committee could have made their work more valuable and explicit had they given a comparison of expenditures for luxuries and other purchases of the average family. This study has been made and recorded by Dr. Scammon of the University of Minnesota. He has shown that the average family spends as follows per year:

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|---|---|
| Motor car | $150.00 |
| Tobacco | 67.00 |
| Candy | 37.00 |
| Drinks and chewing gum | 34.00 |
| Radio and music | 25.00 |
| Physicians | 24.00 |

In addition, 125 million dollars is paid per year to various healers other than physicians, and 350 million dollars is paid each year for patent medicines.

Much more could be said of the inconsistencies of this committee's report, but this should serve to show why the report was not received favourably by the medical profession.

The work of each of the above-mentioned committees has been based upon equally poorly conceived plans. Of the 430 physicians who signed the petition favouring government control of medicine, more than one-third of this number have now asked to have their names taken from this list. Many did not even know that the proposal for government control of medicine was included in this petition to which they attached their signatures. Few of these men have ever acquainted themselves with the actual working of government controlled medicine either from the point of view of the sick or the cost to the government.

Germany has had government control of the practice of medicine for over fifty years and today has a completely government controlled system. Their present death rate is 12.3 per 1,000; while in the United States the death rate is but 10.7 per 1,000 of population. Today 40 per cent of all the money paid for medical care in Germany goes to politicians and other non-medical men, while the physician who is entirely responsible for the care of the sick receives only 60 per cent.

Scammon estimated that socialized medicine in Minnesota alone during the year 1934 would have cost the state $20,000,000, or one-half the entire state tax levy.

We are ready to accept any outside assistance, provided that assistance is given in the proper spirit. Any outside assistance which would interfere with the control of medical care by any person other than the practising physician would be bad for all concerned.—*Condensed from "The Apollonian," January, 1938.*

## • TREATMENT OF PYORRHEA

by J. MONAHAN LEWIS, D.D.Sc. (Melb.) Australia.
*Lecturer in Periodontia, University of Melbourne.*
(Condensed from The Australian Journal of Dentistry)

IT MAY be convenient to consider treatment as of two kinds, conservative and radical. Among the conservative type, we may include gingival curettage, and this might possibly be extended to embrace the various "flap" operations, the purpose of which is to retain the gingival tissue.

It is my opinion that curettage alone is suitable only for the very early cases. It consists of removing all traces of calculus from the root and should include the curettage of the crevicular surface of the affected gingivae. In practice, the curettage of the actual diseased area is not often deliberately carried out, though it can scarcely be avoided during the removal of the calculus.

At the best, however, we can only regard the condition of the mouth so treated as a very unstable one, and, in the majority of such cases, it is only a matter of time for the disease to manifest itself again. Must we not admit it is at this point that ninety-five per cent of cases are abandoned by the operator? Left thus, the damaged gingiva still remains, its contour lost and its vitality impaired by years of chronic irritation.

As a method of treatment, my own choice is that of gingivectomy. Gingivectomy is often criticized because the operated areas may not be very attractive in appearance for some weeks after treatment. However, in ninety per cent of cases, six months later the operator may have some difficulty in determining where the operation was carried out.

The steps of gingivectomy are as follows: Use submucous anaesthesia, blanching the tissues. Determine the depth of the pockets by passing a fine-hooked instrument into the interdental spaces and make it emerge on the surface lingually and labially. This will give the line for the incision which may be somewhat below these punctures.

The resected tissue having been carefully removed, the bleeding can be controlled by pressure applied lingually and labially with the thumb and finger. Inspect the interdental tissues with a blunt instrument. Remove all tags of tissue and all soft granulations from the interdental spaces. This disorganized tissue must be completely removed. Further instrumentation may be necessary to make the attachment symmetrical and, if possible, ensuring that the slope of the interdental tissue is deeper externally than on the lingual aspect, in order to assist the patient in the aftercare of the mouth.

Following the operation the field should be covered with a "pack." The use of a paste of zinc oxide and eugenol in which cotton-wool fibre has been incorporated, as suggested by E. W. Fish, will be found as effective as any yet suggested.

After the removal of the pack the patient should follow the "wooden point" massage with the tooth-pick advocated by E. W. Fish. This may be commenced the day following the removal of the pack.

When we consider the well-nigh spectacular results that sometimes attend the treatment of this disease, we must perforce exclaim at the pity that the condition should so generally be neglected. Teeth that have been loosened have frequently been rescued and made firm and healthy by judicious treatment, even when the flow of pus was only too apparent. There is no gainsaying that this can be done; it has been done in numberless cases. To change a mouth that has been crippled by loosening of the teeth, and by an unwholesome sanitary condi-

tion, such as seen in pyorrhea, and have the teeth made firm and the gums healthy, is no mean achievement, and this is precisely what has been done and what is being done where dentists are doing their full duty.

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*"Some day you'll be a doctor like your father is—and have nobody come to visit you because they all owe you money!"*—Reproduced by kind permission of the Editor of Medical Economics.

*Editor*—M. H. GARVIN, Winnipeg

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# *Present Status of the Canadian Dental Association*

by STEPHEN A. MOORE, London, Ontario

*President of the Association*

Whether it be an individual, a business organization or a professional association, it is a recognized practice to analyse one's position at definite periods, or in other words "take stock". We are entering a new year and I propose to bring to your attention the present status of the Canadian Dental Association. I do this with great hesitation, as I feel that, unlike many of the profession, who have devoted many years to its welfare and progress, my experience has been more limited and my judgment therefore not as mature but I may have the advantage of being able to interpret the ideas of our younger dentists, and at the same time the thoughts of the older members of our profession.

It has been my experience and pleasure to meet many of the dentists from one side of Canada to the other and, without exception, they express the wish that the national association should function in an active and virile

way, attending to all those duties and problems coming under its jurisdiction in a proper and efficient manner. For many years, the Canadian Dental Association functioned as a skeletal organization. It is said that a few of our members believe that this condition might continue. Those who express this opinion do not do so openly but rather in casual conversation, little realizing the harm done, as they are generally individuals who have practised their profession for some time and whose judgment is respected. They do not realize, however, that the status of dentistry has changed in the last ten years and that the profession must assume greater responsibilities in relation to the public, the Government and the members of the profession themselves. We are functioning with greater efficiency than in the past, due in part to our better financial position, but we are not functioning to the best of our ability, nor can we do so until our financial situation warrants the employment of a full-time secretary and the necessary appurtenances thereto. Great distances separate our different provinces but this problem could be overcome by a properly organized office with a full-time secretary, who would be able to visit the different provinces at certain definite periods, so as to study and become familiar with the different problems of dentistry in the various provinces relating to the Canadian Dental Association.

During the last year, our financial position has improved considerably, due to the action of different provinces increasing the annual grant from fifty cents to one dollar per member. You expect to and will receive results from this increased support. You must realize, however, that our total annual receipts are approximately only four thousand dollars and of this amount twenty-five cents per member per year, or over one thousand dollars, is paid to the Journal Committee as your annual subscription to the Journal. Our activities and expenditures are of necessity, for this reason, limited but, due to the unselfishness of many of our members, much is accomplished that could not otherwise be done. To those men of broad vision who give their time and services so freely to the promotion of dentistry, I am deeply grateful.

In recent years, it has not been the custom of the Canadian Dental Association to hold a scientific meeting, but rather to meet at the time and place of a provincial or a sectional meeting. By adopting this procedure, the Canadian Dental Association does not receive any financial revenue from the sale of exhibit space, registration fees, etc. I am in accord with this procedure but it does limit our source of revenue and does not bring our Association to the attention of the profession as it would if a scientific meeting were held. In addition to the above, the fact that the annual membership fee to the Canadian Dental Association comes from the provincial registration fee and is paid by the legal bodies in the different provinces in a more or less painless manner, as far as the individual dentist is concerned, has this same effect but in spite of this disadvantage, this manner of payment has many things in its favour. In other words, the Canadian Dental Associ-

ation functions in a quiet and unostentatious manner, which results in the fact that the members of our profession are not as familiar with it as they might be and often do not think of dentistry from a national viewpoint.

World conditions are changing rapidly and the general public are making increased demands upon the various governments for different services, so that our governing bodies are becoming increasingly paternalistic. A great number of these demands request an increased health service and the profession of dentistry must be prepared and in a position to accept the responsibility of advising and assisting the different governments in relation to these important questions. At no time has it been more necessary for the dentist to support actively his local society, his provincial or sectional organization and the national association, to the end that, should proposed services be instituted, they will be organized in such a manner as to render the best and most efficient service for the indicated public and so that the interests of the dental profession will be safeguarded. At the recent meeting of the American Dental Association in St. Louis, this important fact was especially emphasized in the presidential address. The local and provincial societies can be of great assistance to the National Association in matters of this nature by keeping in touch with all developments pertaining to these problems in their respective districts or provinces. It is only by our united efforts that these problems will be brought to a successful solution.

The Canadian Dental Association was organized at Montreal in 1902. Since that date, the Association has met biennially in different cities in Canada, with the exception of 1918, when our meeting was held in Chicago. It would be a definite step forward if the Board of Delegates could meet each year but under present financial conditions, this is not possible. Great progress has been made since the foundation of the Association, in spite of the many handicaps. Probably one of the outstanding achievements was the publication of our own Journal, starting in 1935.

The Journal Committee is naturally one of our most active bodies. I have been connected with it since its inception and am more familiar with its activities than with those of the other committees. The publication of our Journal has been successful and I believe has met with the general approval of the profession. No expense has been spared to make it a publication of which the members of the profession might be proud. We have also met with splendid support from dental dealers and manufacturers of dental supplies and specialities and if it were not for this support, it would be impossible for our Journal to be published under present conditions. To these individuals and firms, we are grateful but we also believe that we are rendering our advertisers a real service and their support is not interpreted as a philanthropic gesture but rather as an act of kindly support and good business on their part. The Journal Committee receives from the Association twenty-five cents per member per year, which, of course, in no way pays the cost of publication. At the present time, there are no paid officials

on the Journal Committee but this condition cannot continue indefinitely. I know that you would not expect or desire it to do so. This is another of the urgent problems facing the Association.

The Committee on Legislation is an extremely important body. It has under its jurisdiction all matters pertaining to the National Government, such as taxes, customs, tariff, mail order dentistry, etc. This committee is very active but the efficiency of the services rendered could be improved if we were so organized that we could anticipate certain actions on the part of the Government, rather than attempt to correct same after the act has been consummated.

Our Public Relations Committee is doing splendid work and not under the most favourable circumstances. The manner in which the report to the Rowell Commission was prepared is to be commended and the profession of dentistry in Canada is indebted to the members of this committee for their splendid work. They gave and are still giving unselfishly of their time and are looking after the interests of our profession.

Under more favourable circumstances, I believe that great things could be accomplished by our Public Dental Health Committee. This committee is functioning but the activities are limited. Under better conditions, radio programs of a desirable type could be instituted, national dental health campaigns organized and articles on dental health prepared and supplied to our newspapers, so as to bring this important subject prominently before the public. There is no doubt in my mind as to the favourable effect this would have on the practice of the dentist.

The Canadian Army Dental Corps Committee is very active and I believe will report real progress in the future. Of necessity, certain of our committees cannot make public all their activities, for reasons that are obvious.

I would like to discuss the activities of all our committees but this is impossible. However, I can assure you that they are all functioning actively and attending to their respective duties. The Canadian Dental Association is deeply grateful to the members of these different committees.

It is to be regretted that throughout my remarks the financial situation may appear to be emphasized but I would be remiss in my duty if the situation were not placed squarely before you. I am deeply appreciative of the honour you have done me in electing me to the office I occupy. When I accepted the position, I was quite aware of our problems and I do not wish my remarks to be interpreted in any way as a complaint but I bring these problems to your attention in the hope that they may be solved or partially solved for my successor. It would be unreasonable for me to expect you to build a house without the necessary materials. Similarly, your Executive Committee cannot operate your Association in a proper manner without suitable financial support. At the present time, it is impossible for the Finance Committee to prepare a budget and submit it to the Board of Delegates, due to the fact that we do not know

what our annual receipts will be. We are very grateful for the financial support we receive from each province but we have no assurance of the continuity of this support, so that it is impossible for us to prepare in advance a program which might involve a financial outlay over a series of years. If we were assured of an annual fee of five dollars per member, on which our Association could be very efficiently managed, this problem would be solved. It would be poor business on the part of your Board of Delegates to appoint a full-time secretary and equip an office without a reasonable surety of being able to meet the financial obligations connected therewith. It might appear that the matter is being approached in a wrong manner. Possibly the different Delegates should be instructed through their respective provinces to ask the Executive Committee to prepare a plan of activities and a definite budget for approval. If approved, this expense would then be paid by the different provinces, according to the dental population. I do believe, however, that the best solution of this problem would be an assured annual fee of an amount sufficient for the efficient operation of the Association. With a financial basis of this nature, your Executive could plan a series of activities having a definite continuity, the results of which would bring back to the individual dentist many times over the amount expended by the provincial bodies in his behalf.

I wish to express my thanks to the Editor of the Journal for the privilege of being permitted to bring these problems to your attention, I am very optimistic as to the future of the Canadian Dental Association. However, I believe we are at the cross-roads. We must not stop, nor may we turn to the right or left, but will go forward. If our Association is worth supporting, it is worth supporting in such a manner that it may be placed on a sound basis and function to the greatest possible efficiency.

May I again thank you for the honour you have conferred upon me by electing me to my present office and extend to you my good wishes for your health and prosperity in the New Year.

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*For nearly thirty years I have been a close observer of the steady evolution in the quality and achievements of the dental profession. In meeting personalities, in watching events, and in evaluating trends, I have regarded dentistry as a humanitarian spirit embodied, in all its nobility, in the many earnest men and women who in their daily services and relationships, and according to their various abilities and fidelities, have been exemplifying the soul of your profession. In this idealization, my associations and observations—which have given me many of my happiest hours—have enabled me to see clearly, with the eye of a poet, the heart of a friend, and the admiration of a citizen, that* the soul of dentistry is marching on! *May each of you go on dutifully and joyfully with it.—Excerpt from address by William J. Gies, Ph.D., F.A.C.D., at the 25th Anniversary Meeting of the Allied Dental Council, New York City, November 2, 1938, per Dental Outlook.*

# BOOK REVIEWS

**"Dental Materials,"** by John S. Shell, B.S., M.A., Director of Research and Development, Thomas J. Dee & Company; Formerly Assistant Professor of Chemistry and Metallurgy, College of Dentistry, University of California. 413 pages; 86 illustrations. Published 1938 by the C. V. Mosby Company, of St. Louis. Canadian Agents: McAinsh & Co. Limited, Toronto. Cloth $5.00.

In the preface, the author states that the present volume is to succeed Hodgen's "Practical Dental Metallurgy," which has for over forty years served as a text-book in different dental schools. The author states that the book is designed, not only for the practising dentist and research worker, but also for the undergraduate during his different years of study.

The first chapter contains a list of the elements with certain basic definitions. The next seventeen chapters are devoted to a discussion of different metals and their alloys, as used by the dentist. One of these chapters discusses the question of dental amalgams. Certain metals are discussed which at the present time do not particularly interest the dental profession but it is possible that these metals may be used in the near future in certain dental alloys and for this reason the author has included them.

Individual chapters are devoted to the discussion of dental porcelain, dental cements, vulcanite and synthetic plastics. In the opinion of the reviewer, greater space might have been devoted to this last subject, particularly in view of the large number of different synthetic plastics being recommended as denture bases at the present time. The paper, illustrations and general format of the book are excellent and this text is recommended as a valuable addition to the library of the undergraduate or dentist.

—*Stephen A. Moore.*

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**Special or Dental Anatomy and Physiology and Dental Histology,** (Vol. 1.), by T. W. Widdowson, L.D.S.R.C.S., Eng., Consulting Dental Surgeon to King's College Hospital; Lecturer in Special or Dental Anatomy and Physiology and Dental Histology to King's College, University of London. Sixth edition, 505 pages, 564 illustrations and 12 plates. Cloth 30/-net. Published by John Bale, Sons & Curnow, Ltd., London, 1938.

Since the fifth edition of this work was published ten years ago the author has found it necessary to rewrite much of the section dealing with the human aspects in order to bring the information to date. By dividing the work into two volumes that section dealing with the human part of the subject may be revised and republished more frequently without also including the comparative part.

Chapters deal with cytology, embryology, calcification of bone, development of the jaws and other bones around the mouth, development of teeth, growth of the jaws, enamel, dentine, cementum, pulp, periodontal membrane, gingival tissue, Nasmyth's membrane, development of enamel, dentine and cementum, dental follicle, eruption of teeth and forms of human teeth. A chapter by J. Leslie Young, L.D.S.R.C.S., Eng., is included on "The Preparation of Dental Tissues for Microscopic Examination."

The author gives credit to the many other authors whose works he has consulted in the preparation of the book. The book is well printed and profusely illustrated and should prove useful as a textbook, both to students and to practitioners.

—*Kenneth M. Johnson.*

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**The Surgery of Oral and Facial Diseases and Malformations,** their Diagnosis and Treatment including Plastic Surgical Reconstruction, by George Van Ingen Brown, D.D.S., M.D., C.M., F.A.C.S., Emeritus Professor of Surgery, University of Wisconsin. Sometime Professor of Oral Surgery and Oral Pathology, State University of Iowa, and special lecturer on Oral Surgery, University of Illinois, Vanderbilt University and Atlantic-Southern Dental College. Fourth edition, thoroughly revised. Octavo, 778 pages, with 589 engravings,

(containing 1019 illustrations) and 12 coloured plates. Published 1938 by Lea and Febiger, Washington Square, Philadelphia, Pa. Cloth $10.00.

This new fourth edition of this standard work is designed and arranged to make it an effective textbook for students as well as a reliable source of reference for practitioners. On account of the prevalence of automobile and other traumatic injuries, plastic surgery has now become a very important part of surgical practice. In these days the general practitioner should be familiar with the various possibilities of improving or correcting disfiguring scars, burns, contractions, etc.

This work offers a safe guide to the diagnosis and treatment of all such conditions. In each case the author has included drawings of the operative steps employed and the reasons for their selection.

To the dentist who wishes to broaden his concept of the possibilities of modern surgery in dealing with the many unusual conditions which confront the medical and dental profession in these days this book is to be recommended.

—*M. H. G*

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# NEWS FROM THE PROVINCES

*NEW BRUNSWICK:*

### Carnival At Moncton

Over 1,000 people attended the Free School Dental Clinic Carnival, November 14. Proceeds went towards the work of the Clinic.

*NOVA SCOTIA:*

### Some People Are Easily Fooled

A Nova Scotia dentist reports that recently he had occasion to make a lower denture for a woman, to occlude with an upper denture which she was wearing at the time. He requested that the upper denture be left with him over night in order to facilitate the set-up but the request was not granted. It seems that the woman was married and her husband was unaware of the fact that she was wearing dentures.—*J. S. B.*

*BRITISH COLUMBIA:*

### Vancouver Dental Society

The members of the Vancouver Ante Prosthetic Study Club were guests at the monthly meeting of the Vancouver Dental Society. Dr. E. Pottenger presented a paper on the stabilization of lower dentures. Not only did he outline the technique employed by Ante, but paid particular stress to the muscles of mastication because without a working knowledge of these muscles one is not able to correct the faults or prevent them in the stabilization of dentures. Dr. Hugh W. MacMillan's paper in the American Dental Journal, August 1936, will iron out many difficulties in connection with the action of muscles on stabilization. Clinical demonstrations by means of models, showing the various steps of impression taking and four practical cases were presented. The results were very favourable, with excellent adhesion and stability in all movements of mastication; also there was very little soreness in any of the cases, in spite of the fact that the dentures had been worn for several days. The retention was equal to that of the upper dentures.

The meeting was the largest held by the Society and speaks well for the organization under the chairmanship of Dr. Ralph Hall. Dr. E. Fraser Allen was selected as the representative of the dental profession on The Workman's Compensation Board; and Drs. Harold Cline and R. L. Pallen were selected to represent the Society on The Greater Vancouver Health League.

For services rendered, not only to the profession of Canada but also in the United States, Dr. Robert L. Pallen, Past President of The Canadian Dental Association, was honoured with membership to The Fellowship of the American College of Dentists. Dr. Pallen described his visit to the American Meeting held in St. Louis, Missouri.

*ALBERTA:*

### Calgary Dental Society

A well attended meeting of the Calgary Dental Society, was held in the Renfrew Club on November 14.

Dr. J. M. Dixon, Alberta representative to the Dominion Dental Council, gave an interesting report on the meeting of that Body, in Vancouver, last July.

Dr. J. E. Hesson introduced a new feature into the meeting. It was in the form of a "Know your Neighbor" feature. Several of the members were asked to relate their "life history." This portion of the meeting proved very popular.

Our hustling President, Dr. Orman Whitman, is to be congratulated on the type of meetings he is providing for the society this year.

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### Dr. Gilchrist Honoured

Recently the degree of Fellow of the American College of Dentists, was conferred on Dr. Harry Gilchrist, Professor of Prosthetic Dentistry at the University of Alberta.

In recognition of this honour, Dr. Gilchrist was the guest speaker at the December meeting of the Edmonton Dental Society. His subject was, "A résumé of the highlights of the meeting of the American Dental Association, recently held in St. Louis, U.S.A."

During the summer he visited New Orleans to take the Fournet-Tuller short course on impressions and denture construction. Since his return, he has given a course of instruction in this work at Edmonton and Medicine Hat and will shortly do so in Calgary. The dentists of Alberta are fortunate in having so capable a teacher bring this work to their doorsteps.

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### New Office Building

There has recently been completed, in Edmonton, a modern store and office building, by the Kresge Company. Dr. George Barnett of Killam, Dr. Thomas Hawker of Bashaw and Dr. R. L. Scharff of Edmonton, have moved their offices to this building.

*SASKATCHEWAN:*

### Saskatchewan Dental Association

The Saskatchewan Dental Association is the new name of the former Saskatchewan Dental Society which was adopted at the convention this year. This is the voluntary body, for convention and other purposes, as distinguished from the official body, "The College of Dental Surgeons of Saskatchewan." The Association recently appointed a Public Dental Health Committee consisting of Dr. M. J. McConnell, Chairman, Dr. E. B. Nagle and Dr. L. D. Haselton, all of Saskatoon.

This Committee is gathering information from numerous sources and is studying the large and difficult problem in a very comprehensive manner, in order to make a worthwhile recommendation to the Association for future action. Their report will be awaited with interest.

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### School Clinics at Weyburn

The dentists of Weyburn, Saskatchewan, have been doing a fine piece of work for the school children of the city and the surrounding rural schools. During the years 1934 to 1937, inclusive, they have examined the mouths of all the children in the city schools, and provided treatment for a thousand children at the small cost to the School Board of $1.50 per child. In addition, during the same period, they have made a complete dental examination in twenty-three rural schools and have given treatment to approximately five hundred scholars, at the same rate per child as in the city schools. These dentists have shown their confrères in Saskatchewan one way of meeting the dental problem for children in the drought areas.

*MANITOBA:*

### Dr. E. Byron Kelly, of Chicago, at Winnipeg Meeting

by WALTER A. MILLER, D.D.S.
President of the Winnipeg Dental Society

On October 6, 1938, Dr. E. Byron Kelly was the guest speaker at the fall meeting of the Winnipeg Dental Society; the subject of

his clinical lecture was: "Practical Suggestions in Full Denture Service."

Dr. Kelly's practice is limited to artificial dentures and his original research in zinc oxide paste and his treatise on "Checks and Balance"[1] are well known to many of his Canadian friends.

As some of the highlights of his address may be of interest to the readers of the Journal, the following is a brief résumé:

"After years of study and research in this department, I am convinced that no field in dentistry involves as much guesswork or uncertainty as to success as that of full denture service. Any dentist who believes he has an original technique which insures satisfaction in all cases, is deceiving himself and misleading others."

Dr. Kelly, who was chairman of the Full Denture Section at the 1938 Midwinter Meeting at Chicago, stated his committee had taken a national survey for preferred subjects and the returns showed that "Lower Dentures" and "Immediate Denture Service" received far the greater number of votes.

Commenting on the popularity of these subjects, he stated: "Some of our clinical teachers are still advocating retention and stability of lower dentures by extensions in the postmolar area and below the mylo-hyoid line." It was pointed out that while it is possible to construct a lower denture which possesses a certain amount of retentional security by such practice, the patient is often distressed and uncomfortable, with the result that the dentist begins a series of "trimmings" to relieve the injured parts.

"It is absolutely essential that the patient wearing a lower denture be comfortable whether the appliance be under function or at rest, regardless of any other qualifications." The lower denture technique, as suggested by the speaker, consists in subjecting the patient to what he terms a "tolerancy test." This is done by using a temporary wax[2] lining (which is very tough) placed on the inside of the old denture, and then permitting the patient to wear the case for a day or two. As the wax and tissue yield gradually to the stress of mastication to an equalizing balance, adaptation is established by the harmonious yielding of both wax and the mouth tissue. No heat is required for adaptation, therefore the mucous membrane and soft tissue remain in a reasonably normal condition.

By extending the wax into questionable areas in the mouth, it is soon correctly displaced by the functional action of the muscles and their attachments. A cast is made from the impression when the patient indicates comfort and fit.

Referring to immediate dentures, the essayist considered it questionable practice to construct a denture on a cast representing the normal soft issue of the mouth, and then attempting to force the case over the swollen area, the result of extracting. In illustrating this point, he said: "It is like attempting to force immediately a new, tight-fitting shoe on a foot which has been subjected to surgical treatment." Commenting further: "There is a slight subsiding of the wave of enthusiasm for immediate denture service. While I have constructed many of these dentures, in almost every case the zinc oxide surgical past has been used in order to insure comfort for the patient. This last year, however, surgical splints for two or three days after extraction has become more popular." The essayist was very emphatic in his condemnation of the use of too extensive surgical interference. "The removal of healthy bone structure for presumed ideal mouth preparation, unless esthetics and mechanics are seriously involved, should not be done."

Turning to other points in full dentures, the following is of interest:

*Advocates Use of Face Bow*—Instead of trying to "spot" the head of condyle in using the appliance, he has the patient open the mouth and forces the condyle indicator into the glenoid fossa. By this method of locating the centralizing point of the jaws' axis, the operator is able to make a more accurate mounting.

*Masticating Habits of Patients*—Denture patients who are pronounced unilateral "chewers" should not be forced, by tooth arrangement, to change their habits late in life, any more than you would ask a right-handed man to become ambidextrous. When the favoured mastication side is noted, it is an indication that physiological changes have occurred in the tempo-mandibular joint and that the muscles of mastication are more developed on this particular side.

In order to determine which side a patient uses the most, the dentist should note these five cardinal indications: (1) Expression of the face with mouth drawn to favoured side—(Note: A smoker usually holds cigar on this side.) (2) Digital examination—(a) Extra-Orol: place index fingers on condyle heads, have patient move jaw from side to side. (b) Intra-Oral: Same test with finger in postmolar region in mouth. (3) With dentures or bite blocks in mouth, have patient open wide; a drawn medium line will shift to the favoured side. (4) When the force of mastication is placed on a block between teeth the jaw will move outward to the favoured side. (5) Examination of upper ridge:—the favoured side is usually broken down more extensively from excessive use. It is the contention of the speaker that the upper teeth should be placed on a plane so that the teeth of the upper denture on the favoured side are slightly shorter, i.e., the occlusal plane is inclined slightly upwards on the pronounced working side of mouth.

Touching on the subject of impressions, he stated: "If you wish to avoid difficulties in your occlusal balance and impression adaptation, take your impression in the "set ups," either base plate or wax (wire supported). using zinc oxide paste, and finish the case direct from the mouth." Commenting further: "It is physically impossible to mount casts, using bite blocks, on any articulator, so that the casts and mouth ridges are of the same dimensional relationship. If the case is to be finished from the articulator, the dentist, after taking the bite, should close the articulator slightly before setting up the teeth. This will compensate, to a slight degree, for the compression of ridge tissue in taking the bite."

"In taking impressions, where plaster, or paste-wash, is used as a final corrective measure, the base plate, or compound, should never be exposed *in the line of force* except at the peripheral or post-damming area; bare spots on the ridges indicate compression of resisting tissue, and the completed case will be forced down from the lack of equalizing balance."

On the question of tooth forms and base materials—"Manufacturers are gradually changing their design of tooth forms from anatomical to mechanical. Mechanical forms are not as destructive to ridge tissue as high cusps and are preferred. All porcelain and acrylic acid resins are becoming more popular the last two years."

Many other suggestions were presented, and the membership was well pleased with the presentation.

References:

1. November issue, Dental Digest, 1936.
2. A double sheet of resinous wax called "Plate Gum," about 2 mm. thick, semi-hard (like tar), on one side, soft on the other.

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### Winnipeg Dental Nurses

On Monday, December 5, the Winnipeg Dental Nurses held their monthly dinner meeting in the Princess Tea Rooms, after which they attended a clinic at the Shaw Dental Laboratory.

Following the clinic Mrs. Shaw entertained the Association at her home on Bredin Drive.

## *ONTARIO:*

### Royal College of Dental Surgeons

The newly elected Board of the Royal College of Dental Surgeons of Ontario is as follows:—

District 1, Dr. W. H. Woodrow, Brockville.
District 2, Dr. E. W. Gullett, Picton.
District 3, Dr. F. A. Blatchford, Fort William.
District 4, Dr. Harvey W. Reid, Toronto.
District 5, Dr. G. H. Campbell, Orangeville.
District 6, Dr. L. D. Hogan, Walkerville.
District 7, Dr. J. E. Amos, Brantford.
District 8, Dr. C. A. Nelson, St. Catharines.

The above members are elected to office for two years.

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### Kent Dental Association

At a meeting of the Kent Dental Association held in November, Dr. Frank Martin, of Toronto, spoke on the subject of "Prosthetics."

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### Georgetown Dental Clinic

Georgetown Lions Club held its regular meeting on November 7, at which Dr. R. D. Thornton, of Toronto, spoke on the subject of forming a dental clinic in Georgetown. He also gave some very interesting information on dental examination as sponsored by the Department of Health.

### Successful Candidates in Ontario Municipalities

Once again many members of the dental profession show evidence of interest in municipal affairs. The Toronto Globe and Mail of December 6 reports as follows:

Dr. J. A. Phillips, Cornwall, mayor; Dr. H. A. Stewart, Kingston, Mayor; Dr. Jack Marshall, Belleville, alderman; Dr. George Cornell, Chatham, alderman; Dr. M. J. Rudell, Guelph, alderman; Dr. C. C. Lumley, St. Thomas, alderman; Dr. D. H. Mallory, Brockville, board of education; Dr. W. A. Potter, Niagara Falls, Ont., board of education; Dr. J. J. Hewitt, Smith's Falls, hydro commissioner; Dr. D. D. Lloyd, Strathroy, public school board; Dr. E. M. Wansbrough, Shelburne, council.

These men are to be commended highly for their public spirit and desire to serve as leaders in their community welfare.

### Standardization of Dental Practice in Hospitals

The committee on professional practice of the American Hospitals Association has appointed a committee to compile a manual on dental care and internships in hospitals. A report is to be presented at the next annual meeting of the American Hospital Association which meets in Toronto in September with Dr. Harvey Agnew, secretary of Canadian Medical Association as president. The personnel of the committee follows:—Dr. T. L. Marsh, Chairman, Dr. A. E. Higgins, Dr. George Morgan, Dr. Vernon Fisk, Dr. Ralph Harris, Secretary. A representative advisory committee will be selected in addition to the above who will assist in enlisting co-operation of dental organizations and representative heads of dental departments in hospitals throughout the United States and Canada.

### Toronto Dental Nurses Alumnae Association

The regular monthly meeting of the Toronto Dental Nurses Alumnae Association, in the form of a Christmas party and toy shower for the Children's Aid Society, Toronto, was held on December 13, at the home of Miss Edith Smith.

During the evening Miss Jeanne Tanner, bride of the month, was presented with a silver cake basket.

Entertainment was provided by the social convener, Miss Eleanor Crerar. Refreshments were served.

The Annual Bridge will be held on February 15 at the I.O.D.E. headquarters in aid of the Benevolent Fund.

### 25 Years in Business

On December 8 Messrs. Allen and Rollaston celebrated a quarter century of dental laboratory service to the dental profession. The principals of the firm gave a banquet to their staff at the Royal York Hotel, Toronto. "Rolly" and "Bill" as they are familiarly known, were recipients of many gifts and messages of goodwill and best wishes from a great number of friends.

### Extramural Lectures in Ontario

Lectures given by the members of the staff of the Faculty of Dentistry during the first term of session 1938-1939.

July 25, Dr. F. M. Lott, Port Arthur, Thunder Bay Dental Society, "Occlusal Correction".

July 27, Dr. F. M. Lott, Sault Ste. Marie, Sault Ste. Marie Dental Society, "Articulation of Artificial Teeth".

October 17, Dr. P. G. Anderson, Ottawa, Ottawa Dental Society, "Gold Inlay Technique".

November 10, Dr. W. T. Holmes, Seaforth, Huron-Bruce Dental Society, "How to Avoid Difficulties in X-Ray Technique", and "Interpretation of Radiographic Films".

November 15, Dr. R. G. Ellis, Hamilton, Hamilton Dental Assistants Association, "Preventive Dentistry from the Eskimo to Modern Civilization".

November 16, Dr. F. Martin, Chatham, Kent County Dental Society, "Impression Technique for Edentulous Mouths: Superior Maxilla; Inferior Maxilla".

November 23, Dr. G. V. Morton, Oshawa, Durham-Ontario Dental Society, "Developing and Maintaining a Successful Dental Practice".

November 25, Dr. R. S. Woollatt, Barrie, Simcoe County Dental Society, "Impression Taking" and "Some Problems of Full Denture Prosthesis".

November 30, Dr. R. L. Twible, Peterborough, Peterboro Dental Society, "Impression Technique for Edentulous Mouths: Superior Maxilla; Inferior Maxilla".

November 30, Dr. E. W. Paul, Owen Sound, Grey County Dental Society, "Various types of Surgical Flaps Necessary in Difficult Extractions".

November 30, Dr. F. Martin, Simcoe, Norfolk County Dental Society, "Impression Technique for Edentulous Mouths: Superior Maxilla; Inferior Maxilla".
December 7, Dr. S. M. Richardson, Belleville, Bay of Quinte Dental Society, "Dental Radiography".
December 12, Dr. F. E. Risdon, Ottawa, Ottawa Dental Society, "Antrum Infections, Osteomyelitis and Facial Injuries".

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**Academy of Dentistry Annual Clinic**

The second annual winter clinic of the Academy of Dentistry, Toronto, was held December 7th throughout the entire day. This feature of the Academy programme is being recognized by the profession in Toronto as being very much worth while. The good attendance must have been gratifying to Dr. W. G. Trelford and his committee, Dr. L. M. Gross, Dr. L. Stirling and Dr. H. Swales, all of whom were tireless in their efforts to make the meeting a success. Guest clinicians of the society were Dr. I. K. Lowry of Montreal Dental Club, Dr. G. A. Hiatt of Indianapolis, Dr. Floyd Sutton of Chicago, Dr. Carl Moyle of Hamilton Dental Association and Dr. Fulton Risdon. Toronto dentists assisting in the programme follow—Drs. R. D. Thornton, W. L. Hugill, S. A. Macgregor, H. Mercer, L. F. Krueger, W. F. Dewar, D. H. MacDonald, J. E. A. Trelford, P. G. Anderson, S. Copeland, A. W. Crich, J. H. Johnston, Ross Thomas, W. L. Chalmers, Glen Mitton, Earl Bancroft, I. H. Ante, Frank Martin, O. S. Clappison, Charles McLean, Vernon Fisk and C. H. M. Williams. The Canadian Dental Trades Association were represented as follows: Cook Laboratories of Canada, Ash Temple Company, Bakelite Dental Products of Canada, L. D. Caulk Company, Denco Limited, Dominion Dental Company, National Refining Company, Ed. Green Dental Specialties, Allen & Rollaston, C. L. Daly, Burton Manufacturing Company and Novocol Chemical Company.

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Rev. Father W. E. Cummer celebrated his first solemn high mass in St. Michael's College Chapel at 11.00 a.m., December 11th. The ceremony was attended by many dental friends from outside points in Ontario and United States as well as from Toronto. Following the service in the morning Father Cummer held a reception for his friends in the afternoon.

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**More Municipal Honours**

The following is a further list of Ontario dentists who have been successful in municipal elections: Dr. F. J. Conboy returned controller in Toronto; Dr. V. R. Farrell, Reeve of Grimsby; Dr. Gordon J. Millen, Alderman, Toronto; Dr. J. M. Mitchell, council in Collingwood; Dr. Unsworth Jones, council in Scarboro; Dr. W. D. Vrooman, Alderman, Kingston; Dr. G. V. Tario, Alderman, Pembroke; Dr. W. M. Johnson, Board of Education in Almonte; Dr. Alex Stewart, Board of Education, Toronto; Dr. L. B. Nuttall, Board of Education, Prescott.

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**Faculty of Dentistry, University of Toronto**

Dean Mason announces the appointment of Dr. R. S. Woollatt as associate professor in prosthetics to succeed the late Dr. W. G. Switzer and will assume his duties for term 1938-39, also the appointment of Dr. Gordon Pearson to the prosthetic staff for the balance of the present school year.

*QUEBEC:*

**Montreal Dental Club**

On Monday evening Nov. 28, Dr. A. D. Angus addressed the members of the Montreal Dental Club, using as his topic a revue of the clinic presented at the Fall Clinic by Dr. LaDue. This lecture was very well presented and very well received.

Several changes to the constitution and by-laws were presented and accepted at this meeting. It was also decided to hold the annual meeting and banquet on Dec. 19, at the Montreal Badminton and Squash Club. At this meeting election of officers and installation of the new president will take place.

On Jan. 27, 28, 29, the members of the Ottawa District Dental Society will combine with the members of the Montreal Dental Club in staging a winter meet at the Seigniory Club, Monte Bello, Que. It is expected that this will be the largest winter outing ever staged by the Montreal Dental Club. Reservations have already been received from numerous confrères in New York City, Saranac

Lake, Burlington Vermont, Toronto, and London, Ontario.

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**Mount Royal Dental Society**

A meeting of the Mount Royal Dental Society was held on November 30, 1938 in the Mount Royal Hotel. The clinician for the day was Dr. J. B. Landa, Associate Professor of Prosthetic Dentistry at New York University Dental School.

Dr. Landa, who chose as his topic "Full Denture Service," divided his subject into an afternoon and an evening session. During the afternoon period the speaker demonstrated on several edentulous patients various considerations in diagnosis and prognosis. He showed on study casts and with the aid of charts factors to be borne in mind in planning and constructing full dentures.

During the evening session, the speaker illustrated, by means of lantern slides, the common causes for failure in full denture construction. He considered such common problems as phonetics, centric registration, teeth selection, denture materials, etc.

Dr. T. Asselin was guest of the Society at dinner and at the evening session. Dr. G. Franklin presided.

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**Dental Nurses and Assistants**

Dr. W. F. Walford addressed the Montreal Dental Nurses and Assistants in the McGill Medical Building on Nov. 28, last. He presented a lecture on human anatomy in a very interesting manner. The next meeting of the Association will be held in its club rooms on Dec. 6, this meeting will take the form of a Christmas Party.

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# EMPIRE NEWS

*GREAT BRITAIN:*

**Editor of British Dental Journal**

Mr. Bryan J. Wood has been appointed Editor of the British Dental Journal. Mr. Wood has had a very wide experience in dental affairs in Great Britain and brings to his new office a wealth of intimate knowledge of every phase of professional activity.

His many friends in Canada extend their sincerest congratulations and wish for him unbounded success in this new field of endeavour.

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**The Cost of Medical Research Versus The Cost of a Torpedo Boat**

Sir Leonard Hill speaking at the Conference of Sanitary Inspectors at Edinburgh, said that it had been computed that £285,000,000 a year were being spent on the nation's ill-health, one hundred millions of this being due to workers' lost time and lessened efficiency. 19,000 insurance doctors gave some 20 million attendances during a year, while 14,700 dentists looked after people's teeth. One thousand voluntary hospitals treated 1¼ million in-patients and about 6 million out-patients a year. On quack medicines, about 20 million pounds were spent each year. In comparison, about 15 millions were spent on prevention of disease by maternity, child-welfare and school medical services in salaries of health officers and in administration of public health services. Sir Leonard pointed out that legally money could only be spent on the relief of suffering and not on inquiry into prevention. The Government did not spend on medical research as much as the cost of one torpedo boat.—*British Dental Journal.*

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**Driving a Motor Car Under the Influence of Drugs**

An unfortunate occurrence after an extraction under a local anaesthetic may act as a warning. A man who had had an extraction under a local anaesthetic, left the dentist feeling quite fit enough to drive his car home, but shortly after, beginning to feel queer, he drew up to the side of the road. A policeman went up to the car to ask the reason and seeing the driver's condition, arrested him. He was fined $25.00 for driving a car under the influence of drugs. Patients should be warned to have someone with them capable of driving and not to drive themselves after local injection.—*British Dental Journal, November,* 1938.

Collins Street Looking East, Melbourne, Australia.

*AUSTRALIA:*

**Dental Congress**

Although Australia is geographically isolated from the other continents, in scientific and artistic thought and practice Australians are well up to the world's standard. Australian engineers, surgeons, architects, musicians, dentists, et cetera, are to be found in the active practice of their profession all over the civilized world. One Australian graduate is a consulting physician to the Royal Family. Another is one of the leaders of the dental profession in New York. In the planning of Australian dental colleges a large part was played by the dentists who had travelled overseas in order to obtain familiarity with the most modern views on dental education.

The respective deans of the dental faculties in the Universities of Sydney and Melbourne were appointed from a field of applicants throughout the world, and the dental degrees of these institutions are recognized all over the British Empire. At the present time the Dean of the Dental Faculty of the University of Melbourne is travelling overseas to acquire a knowledge of the latest trends in all phases of dentistry. Other Australian dentists are abroad at present also, and the fruits of their studies and observations will be incorporated in the great Congress to be held in Melbourne in August, 1939. Overseas dentists will find a visit to this meeting—the tenth Australian Congress—almost equivalent to a tour of the leading dental schools of the world, many of which are sending papers and exhibits to the Congress.

*MALAYA:*

**From the Annual Report of the Dental Section of the Medical Department of the State of Johore, Malaya**

The dental section of the medical department of Johore consists of four clinics under the charge of Mr. J. D. Pinkerton who is assisted by four dental surgeons, two of whom are locally qualified. Johore lies on the southern extremity of the Malayan peninsula of which it forms the tip. The capital is Johore Bahru which is connected to Singapore by a raised causeway. The population is about 500,000, mainly engaged in rubber production, though some mining is also carried on. The first attempt at dental treatment in Johore was in 1925 when an unqualified Chinese dentist was placed in charge on a part-time contract basis with a limit of ten patients per day. This system was both costly and inefficient, and a qualified European surgeon was appointed a few years ago. From time to time additions to the staff have been made until the strength is now five officers with a possibility of a further increase. The patients are almost entirely pupils of Government schools and chiefly Malay, Chinese, Indian and Eurasian. The ages vary from 5 to 14. The average dental condition is very bad: a caries rate of from 98 to 100 per cent being not uncommon. Gum disease is prevalent and it is nearly always complicated by the presence of B. fusiformis and Sp. vincenti.—*British Dental Journal, November,* 1938.

# GENERAL NEWS

### Canadian Army Dental Corps

A delegation composed of Stephen A. Moore, London, Ontario, President of the Canadian Dental Association; Ira W. Hamilton, Ottawa, Ontario, Chairman, Canadian Army Dental Corps Committee of the Canadian Dental Association; E. T. Bourke, Montreal, Quebec; W. G. Trelford, Toronto, Ontario; J. F. Blair, London, Ontario; and Dr. F. M. Lott, Toronto, Ontario, representing the Canadian Dental Association, waited upon and were graciously received by the Honourable Ian McKenzie, Minister of National Defence, in Ottawa on November 28, 1938. At the request of the Minister, the Adjutant-General, Brigadier H. H. Matthews, was present. Certain recommendations were made by the delegation and different matters pertaining to dental services in the Defence Forces, were thoroughly discussed. The Committee is unable to make any report at the present time but further investigations are being made and additional reports will be submitted.

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### Faculty of Dentistry University of Toronto Post-Graduate Courses

The following post-graduate courses, open to graduates of any recognized university, will be given by the Faculty of Dentistry of the University of Toronto.

Orthodontia—beginning Monday, April 3, 1939, Prosthodontia—beginning Monday, April 17, 1939.

Each course will cover one month, two weeks of lectures and demonstrations, after which the registrant may, if he so desires, remain for clinical observation and practice.

Registrants will be expected to supply their own instruments, but suitable patients will be provided by the Faculty.

The fee for each course will be $100.00.

Further particulars will be published later.

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### Grant For New York World's Fair

The American Dental Association voted an appropriation of $10,000 to help defray expenses involved in the participation of the Association at the World's Fair to be held in New York City in 1939-40.

### Chicago Dental Society Announces Dates For 1939 Midwinter Meeting

The Midwinter Meeting of the Chicago Dental Society will be held on February 13-16 inclusive at the Stevens Hotel, according to an announcement recently issued by the officers of the Society. The meeting will once again return to its four day session after an experiment with a five day session last year.

In 1938 the Midsummer Meeting achieved new records in attendance with over ten thousand visitors being registered during the five days. Greatly enlarged commercial and scientific exhibits were also features that will be continued for the 1939 meeting.

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### A Georges Villain Memorial

An eminent member of our profession has passed on under most tragic circumstances.

We have just begun to realize what a loss his passing has meant to dental science. Georges Villain was Dean of the Ecole Dentaire de Paris, President of the Fédération Dentaire Nationale Française, Honorary President of the Fédération Dentaire Internationale (F.D.I.), President of the 8° International Dental Congress (Paris, 1931), and was concerned with so many branches of dentistry outside of his school that we all feel that we have lost a very great deal as a result of this calamity.

The memory of Georges Villain is still with us and we wish to keep it living and to transmit it to the generations that will take our place. Therefore, it has been decided to have a bust made and to establish a prize to honour the memory of this great man.

The Executive Council of the Fédération Dentaire Internationale, at its last meeting in Paris, July 1938, decided to join with the members of the French profession in constituting a Georges Villain Committee.

We invite most heartily all dental practitioners to contribute to this worthy cause.

Subscriptions should be sent to P. Fontanel, Trésorier du Comité Georges Villain, 45 rue de la Tour d'Auvergne, Paris, 9°.

YOUTH LANE

**St. Louis Children Visit Youth Lane**

Five thousand children viewed five thousand posters in the 500 feet Youth Lane during the five day St. Louis meeting. Five hundred school children under the direction of the St. Louis Dental Society were conducted each morning and each afternoon through the lane where they had an opportunity of examining posters made by children in thirty-one states, Washington, D.C. and Hawaii. The Lane was lined on one side with posters. Along the opposite wall was arranged exhibits that were especially interesting and educational to children. After studying the exhibits and the posters and admiring the beautiful prize loving cups and encyclopedias which were on display the children were ushered into a motion picture theatre where they were shown a comedy and a dental health film. At the end of the performance each child was given a souvenir "Answer Your Own Dental Question" chart. The children were transferred to and from the auditorium in large school busses. Youth Lane gave the Association an opportunity to perform a splendid bit of educational work for St. Louis children. The St. Louis Dental Society and the St. Louis Board of Education were quick to grasp the opportunity. It is sincerely hoped that through Youth Lane the motto "Dental Health For American Youth" will become an actuality for many St. Louis children.—*Jour. of the A.D.A. and Dent. Cos.*

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**A Trial of Sickness Insurance**

The State Medical Society of Wisconsin backs up its plan for sickness insurance by voting $7,000 to set up a system in any area where "public interest is sufficient to insure a possibility of success." This indicates the sincerity of the doctors in being willing to give sickness insurance a trial.

The doctors, as they make clear in their committee reports, do not guarantee the success of sickness insurance. They sent their own secretary to Europe (investing their own funds) to study European systems which give assurance to workers that their medical fees will be met and their time paid for,

during illness. The secretary came back with a very clear analysis. Sickness insurance has its advantages and its drawbacks. It does give a security to workers that they did not have before. But it also has served to reduce the standards of medical care in most European countries, resulting in an overload for the doctors and a far less personal type of service than Americans, even in the lower income groups, are used to.

The question is whether American communities can perfect a plan to gain the security without the lessening of standards. Nobody can answer that until the system is given a trial. The doctors are willing, with layman co-operation, to make the effort and to put up their own funds for the effort. They pledge full publicity in connection with the attempt. If it fails, it fails, and the public can see why; if it succeeds, there is a gain, and the public will know how success was attained.

This seems a very fair proposition. It needs now only the public demand for it in likely communities. Probably the most promising places at present are Milwaukee and Madison, and we should think that one group readily available to furnish the public interest is the labour group. Labour has been interested in sickness insurance and it has most to gain by the success of some plan. Here is an opportunity.—*From* MILWAUKEE, WISCONSIN JOURNAL—*Sept.* 18, 1938, *A.D.A. Press Release.*

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**Dental Fillings of Dead as Gold Supply**

Alumni of the Japan College of Dentistry suggest a dentist be assigned to each crematorium to remove gold fillings from teeth of the dead, saying gold worth about $2,900,000 goes each year into cremation urns and graves. The dead can in this manner be made to help fight the war.—*N. Y. Jour. of D.*

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**W.G.N. Broadcast**

On November 11 the Chicago Dental Society offered the fourth in a series of radio dramatizations on dental health. The story dealt with the case of a little girl whose abscessed teeth had so undermined her health that she began to flunk her studies at school. The help of her sympathetic teacher produced

YOUTH LANE

no results but when a physician and a dentist came to the school to make a routine examination of all the children the real source of the trouble was discovered. The story ends with the now bright and healthy child proudly displaying her "certificate of dental health."

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### The 14th Greater New York Dental Meeting

The Greater New York Dental Meeting Committee acted as hosts to 14,796 dentists, hygienists, dental assistants, laboratory men, manufacturers and their friends at the 14th annual meeting held December 5-9, 1938, the meeting being sponsored by the First and Second District Dental Societies, (7,006 were dentists).

The Monday meetings were held under the auspices of the Medical-Dental Committee. Outstanding papers were "Primary and Secondary Factors in Dental Caries in Animals and Men," presented by Theodor Rosebury, D.D.S., and observations on "The Lesions of the Oral Mucous Membranes in the Various Types of Blood Dyscrasis," presented by N. Rosenthal, M.D.

The meeting was officially opened Monday evening, at which time L. Pierce Anthony, D.D.S., the newly elected editor of The Journal of the American Dental Association, brought before the Convention the problem of Dental Journalism. He gave considerable thought to the replacing of commercial journals by professionally controlled publications, in as much as it has now become the profession's responsibility to record the history of dentistry's progress.

Tuesday, Wednesday and Thursday mornings were devoted to 42 one-hour clinics. These clinics were of a practical nature, the clinician presenting his subject in such a manner as to enable the doctor to carry back to his office some procedure for a better dental service.

The following out-of-town clinicians took part in the program:—

Walter H. Wright, Associate Professor of Prosthetic Dentistry, University of Pittsburgh, on "The Use of Intra-oral Jaw Relation Wax Records in Complete Denture Prosthesis."

M. M. De Van, of Philadelphia, Pa., on "Construction of Complete and Partial Dentures Prior to the Removal of Condemned Natural Teeth."

Ray James Glezen, of Washington, D.C., Professor of Crown and Bridgework, School of Dentistry, Georgetown University, on "Immediate Fixed Bridgework."

William Hayes Hoyt, of Boston, Mass., Professor of Prosthetic Dentistry, Tufts College, on "Common Errors in Fixed Prosthesis."

W. Harry Archer, of Pittsburgh, Pa., Assistant Professor, School of Dentistry, University of Pittsburgh, on "Anaesthesia and Exodontia."

G. R. Lundquist, of Chicago, Ill., Professor of Oral Pathology, Dental School, Northwestern University, on "Gingival Disturbances."

Carl W. Hoffer, of Nashville, Tenn., on "Bridge Abutments from a Practical and Aesthetic Standpoint."

Paul J. Aufderheide, of Cleveland, Ohio, Chief of Dental Surgery Department, Ceto Hospital, on "Problems in Exodontia in General Practice."

Olin Kirkland, of Montgomery, Ala., on "Treatment of Periodontal Lesions by Radical and Semi-radical Techniques."

F. B. Vedder, of Ann Arbor, Mich., Professor of Crown and Bridge Prosthesis, University of Michigan, on "Attachments for Fixed and Semi-fixed Bridges."

George R. Wainer, of Denver, Colo., on "Intra-oral Roentgen-ray Technique."

Tuesday evening was devoted to the consideration of public welfare.

Thursday evening was set aside for the presentation of twelve topic discussions, which seem to be a very popular forum for the presentation of dental problems, judging by the tremendous number of practitioners who participated in these discussions.

Friday morning, by precedent, was set aside for table clinics.

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### Group Dental Care For Children of New York City

A plan for systematic dental care of children, ages 2 to 7, on an annual basis and at a cost within the reach of the average wage-earner was announced on December 6 by the Greater New York Bureau for Dental Information.

The program was evolved by a committee of the First District Dental Society as a

result of the inaugural address of the president, Dr. Jerome H. Trier.

The plan calls for the assuance of special indemnity policies to 5,000 families for an experimental study of the program's fuller possibilities. The services will include prophylaxis, diagnosis, fillings and extractions, with the patient making as many visits to the dentists as necessary.

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### Income of American Dental Association

In the coming year the estimated income of the A.D.A. is $325,000.00; of this amount the largest single source of revenue, $168,000.00, is from membership dues. The estimated expense for the coming year will be $340,000.00; the largest single item in this figure is $132,000.00 for expense of publishing the Journal.—*From Illinois Dental Journal, Oct. 1938. A.D.A. Press Release.*

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### Compulsory Health Insurance for Municipal Employees of San Francisco

This is the first compulsory health insurance law in the United States. It is likely that its pattern will be given serious consideration in developing similar legislation by States and other governmental units. Hearings upon this charter amendment began in 1936 and a representative of dentistry was in constant attendance. The Charter Amendment was submitted to the electorate in March 1938 and adopted by a vote of almost two to one.

Under the adopted plan every municipal employee has $2.50 deducted from his monthly pay by the city comptroller. The people included in this group constitute about 10 per cent of the total population of the city. Any physician of recognized standing may be admitted to the panel provided he accepts the approved fee schedule as a basis for remunertion.

In the beginning, "dental care" and "dental services" were among the prohibited services. The dental profession strenuously objected to this exclusion on the ground that it would result in physicians on the panel treating fractured jaws, osteomyelitis of the jaws, trench mouth and numerous other diseases which are now in the general province of the oral surgeon. The plan began to operate in April irrespective of these objections upon the part of dentists. At the beginning of operations a "friendly" suit was filed in order to test the constitutionality of the plan. The San Francisco Dental Society immediately intervened in the case as an "amicus curiae" seeking to have the Supreme Court rule the Charter Amendment unconstitutional. This caused the Health Board to have an immediate meeting at which it adopted the changes wished by the Dental Society. The society thereupon withdrew its brief and the Supreme Court upheld the constitutionality of the Amendment shortly thereafter.—*From: Abstract of report by E. Sloman to Economics Committee. A.D.A. Press Release.*

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### Oral Hygiene Committee of Greater New York

A report from the Oral Hygiene Committee of Greater New York stated that the seal campaign which was conducted this year was sufficiently successful to warrant its continuance in future years. Seals were mailed to 10,236 dentists, laboratory supply dealers, druggists and physicians and they were asked to return either the money for the stamps or the stamps.

The returns from the druggists and physicians were not very large but they were contacted largely as an experiment and will not be included in the next drive in order to reduce expenses.

This drive was conducted for the purpose of raising funds for the furtherance of educational efforts during Child Health Week beginning May 1st annually.—*A.D.A. Press Release.*

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### Dentistry at the New York World's Fair of 1939

Not many people believe that "an apple a day keeps the doctor away," but the appalling number of people who do believe that a toothbrush and a tube of toothpaste or powder keeps the dentist away makes it imperative that the dental profession, for the sake of the public it serves and for its own sake, counteract the popular misconceptions prevalent regarding dental health and care. Realizing that the New York World's Fair of 1939 will afford an opportunity of reaching from three to five million people, who will visit the Medical and

Public Health Building at the Fair, the Dental Society of the State of New York is taking advantage of this opportunity to present the most extensive dental education program ever undertaken.

The centrally located Medical and Public Health Building at the Fair, in keeping with the theme of "The World of Tomorrow," will dramatically portray scientific advances which deal with the promotion of human health, happiness and efficiency. Dentistry must play a part in this story of man's fight against health hazards.

Russell W. Tench, president of the Dental Society of the State of New York, in an appeal for support of this enterprise, said, "A fund of at least thirty thousand dollars is needed."—*A.D.A. Press Release.*

## IN MEMORIAM

The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**David James Berwick,** of Montreal, Quebec, aged 67, died suddenly at his home, December 11. He was graduated from Bishop's University and commenced practice in Montreal in 1897. He was one of the founders of the Dental Department of McGill University; and as a recognition of his splendid service was given the honorary degree of Doctor of Dental Surgery in 1912. For many years he was Professor of Operative Dentistry.

He was past president of the College of Dental Surgeons of the Province of Quebec, a very active member of the Montreal Dental Club and was associated with the Montreal General Hospital as a consultant, for many years. At the time of his death he was president of the Granite Curling Association.

For many years he was a member of Knox-Crescent Presbyterian Church.

Dr. Berwick is survived by his widow, one son, Dr. Kenneth Cameron Berwick, and two brothers.

**James E. Hinds,** aged 41, of Sudbury, Ontario, died December 10 of pneumonia. He was president of the Nickel Belt Hockey League and was also one of the founders. He served overseas in the Great War and on return became active in the Sudbury Canadian Legion. He was dental officer for Burwash Industrial Farm and active in the work of the Sudbury Liberal Association.

Dr. Hinds is survived by his widow, two small sons, his mother, two brothers and a sister.

**Joseph A. Jutras,** of Montreal, Quebec, aged 65, died November 18. He was graduated in dentistry from the University of Montreal, and has been a member of the Dental Association of the Province of Quebec since 1897. He practised his profession in Three Rivers until 1920 when he moved to Montreal and became associated with the local Department of Health.

Dr. Jutras is survived by his widow, three sons, two daughters and two sisters.

## . . . SECTION FRANÇAISE . . .

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# *Editorial*

Comme les succès faciles sont de courte durée aucune oeuvre ne subsiste sans la trempe des difficultés. Eh bien! chers lecteurs réjouissons-nous; notre Journal vivra car, il a traversé victorieusement la période des épreuves.

C'est donc avec joie cette année que les membres du comité vous souhaitent "Bonne et heureuse année". Plus d'inquiétude partant plus de tristesse, 1939 sera certainement pour notre Journal, et pour nos lecteurs, nous l'espérons bien, une année de succès et de rapides progrès. Une réorganisation complète nous assure la collaboration si longtemps désirée. Les résultats si merveilleux obtenus au dernier congrès des confrères Canadiens-français ont prouvé la vitalité de nos organisations et nous ne voyons pas maintenant pourquoi nous ne réussirions pas aussi bien dans le domaine de la recherche et de la diffusion par la littérature scientifique.

Chers confrères maintenant que les premiers pas sont faits, allons-y gaiement et nous connaîtrons de beaux jours.

*La Rédaction.*

# *Le Diagnostic Buccal en Vue d'Une Economie de Temps et d'Argent*

par RENE ROCHON, M.S., D.D.S., Détroit.

DE nos jours la pratique de l'art dentaire évolue rapidement. De plus, les changements qui se produisent dans le monde en ce moment, nous forcent à devenir de plus en plus attentifs aux détails. Ceci s'applique aux problèmes généraux aussi bien qu'aux problèmes professionnels.

La première raison qui nous force à envisager nos problèmes plus sérieusement, je le répète, est le progrès rapide qu'a fait notre profession durant les dernières années, tant du côté scientifique que du côté préventif. Afin d'avancer il nous faut suivre le courant, c'est-à-dire que si l'on veut suivre le progrès tant scientifique que technique, en ce qui concerne le dentier partiel, il faudra dorénavant, reconnaître en nos pièces de prothèses partielles quelque chose de plus important qu'un substitut bon marché pour un pont fixe. Une pièce partielle construite d'après les données scientifiques modernes, est en maintes circonstances la restauration dentaire idéale.

Deuxièmement, le côté préventif influence aussi cette évolution et nous force à projeter plus sérieusement ainsi qu'à construire plus minutieusement nos pièces de prothèse, afin qu'elles n'amènent pas la carie ou la pyorrhée.

Troisièmement, depuis plusieurs années nous nous sommes appliqués à instruire le patient. Par conséquent, aujourd'hui, un patient mieux renseigné nous force à son tour à devenir meilleurs dentistes. Car un grand nombre d'entre eux savent non seulement ce qu'ils veulent, mais reconnaissent plus facilement la valeur réelle de nos travaux.

Enfin, l'évolution économique s'est mise de la partie; la dépression a rendu le public plus exigeant. Malgré une diminution dans les salaries ainsi que dans les revenus, il se trouve encore beaucoup de nos patients qui désirent ce que l'on a de mieux à leur offrir. Mais comme les sacrifices doivent être plus grands qu'ils ne l'étaient par le passé, ces mêmes patients exigent un travail qui durera plus longtemps, demandant encore des résultats plus immédiats et plus satisfaisants.

Finalement, les relations biologiques entre la bonne dentition et la santé deviennent de nos jours de plus en plus reconnues et prennent des proportions de plus en plus importantes. Ce qui veut dire, qu'au point de vue santé, une restauration dentaire moderne ne doit plus être regardée comme un appareil purement mécanique, mais plutôt *comme une nécessité biologique.*

De tout ceci il résulte que non seulement en prothèse, mais aussi dans toutes les branches de notre profession, ainsi que pour chacun de nos patients, nous devrons dorénavant formuler nos plans plus sérieusement, plus méthodiquement, à l'aide d'un examen plus rigoureux, afin d'arriver à un diagnostic exact, ce qui permettra non seulement un pronostic plus juste, mais une réussite plus satisfaisante.

En quoi consiste un examen complet? C'est maintenant la question que nous devons considérer.

Un examen complet comprend décidément un examen sérieux de la bouche. L'enregistrement de cet examen sur une fiche devra inclure:

1—La carie des dents,
2—L'absence des dents extraites,
3—La présence des restaurations dentaires,

On y notera aussi:

1—La couleur des gencives, un indice de leur bien-être,
2—ainsi que leur forme et leur attachement à la dent et à l'avéole,

3—Leur fermeté; n'oubliant pas de noter aussi,
4—La présence de pus et la mobilité des dents.

L'usage des rayons-X est indispensable à un examen complet, parce que les doigts et les yeux ne peuvent explorer que la partie visible des tissus et l'on sait que plus de la moitié des tissus importants sont obscurcis par les gencives et les os. Afin de déterminer les indices favorables, aussi bien que de découvrir les anomalies et les foyers d'infection, il faudra donc avoir recours à la radiographie.

Il y a déjà trop longtemps que nous ne cherchons que les trous noirs dans les mâchoires. A la vue de ce que représente une atrophie sur un radiogramme, il y en a trop parmi nous qui sont aussitôt prêts à crier "à bas les foyers d'infection, vive le davier!" Le massacre qui en résulte n'est pas toujours justifiable et très souvent peu profitable au bien-être du patient. Il faut évidemment éliminer tous les foyers d'infection, mais n'oublions pas cependant que toutes les atrophies ne sont pas infectieuses, et de plus qu'une hyperplasie infectieuse peut, elle aussi, être la source de graves dangers, pour la santé. Comme il se trouve des atrophies aussi bien que des hyperplasies qui ne sont pas dangereuses, le but de la radiographie devrait être non seulement de les découvrir mais de déterminer, oui ou non, s'il y a danger dans ces manifestations pathologiques. En même temps il ne faut pas perdre de vue l'importance de déterminer aussi les indices favorables.

A l'aide de la radiographie il faudra découvrir:

1—Les dents et les racines incluses,
2—Les fragments de dents et d'amalgame,
3—Les morceaux d'aiguille hypodermique.

Il est aussi avantageux, en ce moment, de s'assurer de l'état de la calcification osseuse en se posant les questions suivantes:

1—La calcification est-elle normale conformément à l'âge du patient?
2—Souffre-t-il d'une calcification trop intense, un indice d'une stimulation trop grande?
3—Ou bien, y a-t-il un déficit dans la calcification, ce qui démontre une mauvaise nutrition?

Le pouvoir de régénération osseuse du patient devra être déterminé, c'est-à-dire, est-elle lente ou rapide, un indice de l'activité métabolique?

Enfin, s'il y a occlusion traumatique, il faudra répondre à deux questions: premièrement,—Combien de résorption osseuse a-t-elle produite; et deuxièmement,—Quelles sont les chances de récupération?

L'examen aux rayons-X étant complet, il faudra maintenant déterminer la vitalité des pulpes dentaires douteuses, soit à l'aide:

1—de la machine électrique,
2—de la glace, ou
3—de la chaleur.

Finalement il faudra s'enquérir du passé de notre patient, afin de déterminer son état de santé.

Ayant obtenu et classifié tous ces faits, nous sommes alors en état de faire un diagnostic exact. Afin de mener le tout à bonne fin, une fois notre diagnostic terminé il faudra éliminer en entier les manifestations pathologiques, telles que:

1—Infections résiduelles, à l'aide de la chirurgie et du curetage s'il y a nécessité,
2—Corps étrangers, dents incluses, racines,
3—Atrophies infectieuses,
4—Hyperplasies infectieuses,
5—Occlusions traumatiques, rectifiées par le meulage,
6—Maladies des gencives, guéries par l'élimination des causes,
7—Dents cariées qui ne peuvent être obturées—extraites,
8—Dents déracinées au point d'être incurables—extraites.

Ayant terminé tous ces préparatifs, maintenant et pas une minute plus tôt pouvons-nous songer avec certitude à la construction d'une pièce artificielle. Pourquoi? Parce qu'avant d'étudier ce problème il est absolument nécessaire que la bouche soit en bon état et qu'il ne reste en place que les dents dont on pourra se servir avantageusement.

De plus, nous sommes maintenant en pleine connaissance des faits, tant du côté de la santé qu'au point de vue mécanique. Nous possédons alors les bases nécessaires sur lesquelles nous pouvons premièrement formuler nos plans, et deuxièmement, s'il y a lieu, nous pouvons ériger un édifice dentaire solide et durable.

Du reste un plan complet pour la construction d'une pièce de prothèse, doit inclure un procédé plus minutieux qu'un simple examen, pour déterminer les points favorables à la rétention, et le modèle de crochet le plus recommandable. Avant de songer à la construction d'une pièce, une revue du diagnostic précédent est absolument nécessaire, afin d'appliquer les connaissances acquises aux problèmes plus spéciaux de la construction d'une prothèse dentaire partielle.

Il faudra premièrement, revoir l'examen de santé. Il est bon de savoir si le patient souffre de maladies nerveuses. Car souvent ces dérangements nerveux sont la cause d'un manque de coopération de la part du patient. Il faudra donc le déterminer, car nous sommes tous d'accord, j'en suis sûr, lorsqu'il est dit que la coopération en prothèse est l'un des facteurs les plus importants pour la réussite.

Le patient souffre-t-il d'anémie, de diabète, de tuberculose ou de néphrite? Il faudra s'en assurer, car ces maladies agissent contrairement au succès complet d'une pièce de prothèse.

Il ne faut pas oublier non plus le côté psychologique. D'après l'attitude du patient, peut-on s'attendre à une coopération totale? C'est-à-dire, le patient regarde-t-il d'un bon oeil une prothèse de ce genre; ou bien, y est-il opposé; ou bien encore, se soucie-t-il peu des résultats? Tous ces facteurs sont de première importance et peuvent souvent devenir une raison majeure pour ne pas procéder à la construction de la pièce.

Si le patient a déjà porté des dentiers, il est important de connaître les résultats qui ont été obtenus. Car s'il y a eu insuccès, il est certainement avantageux d'en déterminer la cause. Toutefois, si la cause nous apparaît réelle et facile à remédier, notre réussite future sera pratiquement assurée. Si, au contraire, les causes sont indéfinies, le patient semble difficile, "Cave ne cadas," la chance de succès est incertaine.

Lorsqu'il y a eu intervention chirurgicale, il est de notre intérêt d'en connaître la date, le genre d'opération ainsi que les résultats obtenus. Ces facteurs nous permettent de déterminer non seulement la forme des crêtes et de l'avéole, mais de déterminer également si cette forme sera favorable et durable. Il est évident que des crêtes bien formées, grosses et bien arrondies, offrant une large superficie à la pièce-base augmenteront la stabilité de l'appareil ainsi que sa durée. On oublie trop souvent de déterminer ces choses à l'avance.

Continuant notre examen, il faudra examiner de nouveau nos radiographies pour connaître la forme et le volume des racines. Elles peuvent être:

1—Petites ou grosses,
2—Coniques ou aplaties,
3—Longues ou courtes,
4—Bien renchaussées ou dénudées d'alvéole.

Tous ces facteurs facilitent la conception de la valeur rétentive des dents et leur durée probable lorsqu'elles auront à subir les forces multiples de la mastication et de la rétention d'une pièce partielle.

Cet examen radiologique comprendra aussi la direction des racines. Si elles sont perpendiculaires aux forces de la mastication, nous serons assurés d'un support maxi-

mum, car la force des racines diminue en proportion de leur déviation de la ligne perpendiculaire; plus elles sont inclinées, moins elles sont fortes.

Encore à l'aide de radiographies, il faudra déterminer l'épaisseur de la couche des tissus mous qui recouvre l'alvéole. Ces tissus ne peuvent être observés qu'à l'aide de radiographies précises et claires. Il arrive souvent qu'un temps de pose trop long rende ces tissus invisibles.

S'il y a atrophie traumatique, il faudra déterminer le degré de résorption alvéolaire et aussi la résistance probable du patient à cette atrophie destructive.

Ayant en vue la construction de la pièce, il faudra pousser plus loin l'examen de la bouche pour se rendre compte de l'épaisseur exacte des tissus mous, de leur fermeté, et de la relation qui existe entre les tissus mous et les tissus durs en raison de la dimension de la pièce. Durant cet examen qui se fait par la palpation, il faudra observer la mobilité des dents, la forme de l'arcade et du palais, pour découvrir les excroissances osseuses possibles, soit à la voûte palatine ou sur la table externe de l'arcade. Si cette hyperplasie osseuse est au palais, il faudra la contourner pour ne pas blesser le patient avec la barre palatine; si toutefois elle est unilatérale et du côté externe de l'arcade, on pourra contourner la difficulté en construisant la restauration de façon à placer la pièce de ce côté, en premier lieu. Toutefois, si les excroissances osseuses sont bilatérales, dans la région des molaires par exemple, il faudra avoir recours à la chirurgie, autrement la pièce n'irait pas en place sans causer beaucoup de douleur.

L'examen général est maintenant complet; il s'agit ensuite de se procurer le modèle initial, dit modèle d'étude, et le modèle de la mâchoire opposée. Ce modèle principal doit être une reproduction fidèle des tissus, révélant non seulement les sections rétentives des dents mais aussi leurs contours en entier. Une empreinte en cire ou en stent n'a pas une grande valeur, car par son imperfection elle peut trop souvent, devenir une cause majeure d'insuccès. Il va sans dire, alors, que le plâtre et les substances colloidales, telles que le dentocol, sont les substances de choix pour ces empreintes. Elles seules procurent des modèles parfaits et précis. Les modèles une fois complétés, il s'agit de tracer le plan de la construction de la pièce, une méthode recommandable est celle des docteurs Noble et Wills.

L'explication des procédés, en vue d'un examen de valeur, vous a peut-être paru assez longue. Cet examen peut se faire dans un temps beaucoup plus court. Toutefois un examen complet, quoique long, est absolument nécessaire, si l'on veut construire une pièce satisfaisante et pour vous et pour le patient.

En terminant, passons en revue les points les plus importants: Règle générale, notre examen devra être minutieux et complet. Au premier abord ceci nous semble une perte de temps, mais en réalité ce n'est qu'une économie. Nous épargnerons ainsi du temps et de l'argent en éliminant non seulement les reprises, mais aussi les modifications nombreuses qu'il faudra faire après l'insertion de la pièce. Ensuite, de nos jours, une pièce de prothèse partielle doit être considérée comme un chef-d'oeuvre de précision et non pas un substitut à bon marché pour un pont fixe ou une manière plus rapide et moins ardue de remplir son gousset. Puis, comme nous l'avons dit, aujourd-hui plus que jamais nous devons nous perfectionner, si nous désirons recevoir les honoraires suffisants pour nos travaux. Enfin, les résultats obtenus porteront des fruits non seulement pour chacun de nous, mais ils seront une source de bienfaits pour la profession en général. Car, je ne crois pas qu'il y ait de moyen plus efficace pour dérouter les exigences actuelles des techniciens. Il ne faut pas trop les blâmer, par négligence nous sommes probablement la cause indirecte du mouvement. Il n'y a pas de raison, pour nous, dentistes, de ne pas jouir de la supériorité en tout ce qui concerne l'art dentaire, même en prothèse. Nous possédons les connaissances suffisantes pour envisager les problèmes sous tous leurs aspects. Le mécanicien dentiste, lui, ne peut reconnaître que le côté purement mécanique du problème. Malheureuse-

ment, par le passé, il y en a trop parmi nous qui ont été satisfaits d'un travail fait à la diable en donnant peu d'attention au côté biologique et laissant aux ressources d'un mécanicien les problèmes manuels.

Il serait à propos, il me semble, tous tant que nous sommes, de nous avouer coupables et de promettre en ce moment de rebrousser chemin, c'est-à-dire de nous remettre sérieusement à l'oeuvre, d'apporter plus d'attention au progrès et aux méthodes enseignées, de nous instruire de nouveau si nous avons oublié, et finalement, de prendre la bonne résolution de construire dorénavant nos travaux non seulement sur des bases mécaniques sûres, mais d'après un diagnostic averti, suivi d'une exécution attentive, fondée sur des données scientifiques, modernes et admises par tous.

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# l'Orthodontie *(suite)*

par PAUL GEOFFRION, B.A., D.D.S., A.I.D.O. (R.A.)
*Membre de l'Académie Internationale d'Orthodontie; Professeur Titulaire d'Orthodontie de l'Université de Montréal.*

*Chapitre V.*

## Anomalies Dentaires et Deformations Maxillo-Faciales

Les anomalies dento-maxillaires se divisent en quatre groupes bien distincts.

1er *Groupe*—Anomalies des dents considérées individuellement.

2è *Groupe*—Anomalies de développement des arcades.

3è *Groupe*—Anomalies de la relation des arcades.

4è *Groupe*—Anomalies ou malformations des mâchoires.

### —1er Groupe

### Anomalies des Dents Considerees Individuellement

Elles peuvent être des anomalies (a) de forme (b) de nombre (c) de siège (d) de direction.

(a)—Anomalies de Forme — Les anomalies de *forme* bien que relativement fréquentes peuvent non seulement siéger à la couronne comme dans la (Figure 12) mais aussi à la racine. Elles peuvent consister en des augmentations ou des diminutions de volume et des altérations de forme.

(b)—Anomalies de Nombre — Les anomalies de nombre se manifestent par la présence de dents surnuméraires que l'on rencontre surtout dans la dentition permanente mais que l'on peut aussi rencontrer dans la dentition temporaire. Ces dents surnuméraires font éruption le plus souvent dans la région des incisives.

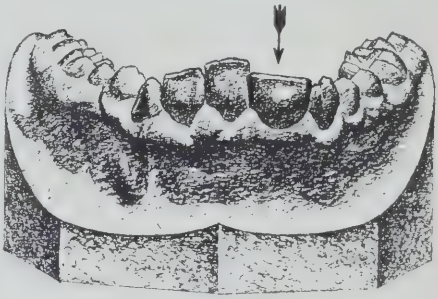

**Figure 12**
*Anomalie de forme de la couronne de la latérale gauche inférieure, par augmentation de volume.*

Les anomalies de nombre se manifestent aussi par l'absence de dents; le plus souvent les latérales supérieures et les deuxièmes prémolaires inférieures. D'habitude il s'agit presque toujours d'absence partielle. Exceptionnellement elle peut porter sur la totalité des dents temporaires et très exceptionnellement sur la totalité des dents temporaires et permanentes à la fois comme dans la (Figure 13) qui représente le profil de l'un de nos patients, âgé de treize ans, qui à l'examen radiographique ne révéla aucune dent. Ces cas d'anodontie totale

Figure 13
*Profil de patient souffrant d'anodontie totale.*

sont très rares et la littérature dentaire n'en rapporte que quelques-uns; mais ils existent et nous en parlerons plus longuement lorsque nous étudierons les causes de malocclusions.

(c)—ANOMALIES DE DIRECTION—Les anomalies de direction sont celles qui intéressent l'orthodontiste car ce sont elles qu'il aura à corriger. Elles sont dues soit à un déplacement de la dent autour d'un de ses axes, soit à son déplacement parallèlement à un de ses axes.

En se rapportant à la (Figure 14) qui représente une arcade dentaire normale en projection horizontale, nous voyons que toutes les dents sont placées sur le maxillaire suivant une ligne éllipsoïdale appelée l'arcade dentaire et à laquelle nous donnerons le nom de *ligne éllipsoïdale.*

Comme la situation de ces dents n'est point due au hasard, mais conditionnée par des lois physiologiques et physiques

Figure 14
*Arcade dentaire supérieure normale, en projection horizontale sur laquelle est tracée la ligne éllipsoïdale.*

qu'il serait trop long d'énumérer; disons que toute dent qui ne correspond pas à cette courbe elliptique de l'arcade normale ou à cette ligne ellipsoïdale (Figure 14) est dite en anomalie de *direction.*

Et c'est ainsi que dans un maxillaire nous pourrons reconnaitre les anomalies de directions suivantes:

Lorsqu'une dent est située en dedans de la ligne ellipsoïdale nous disons

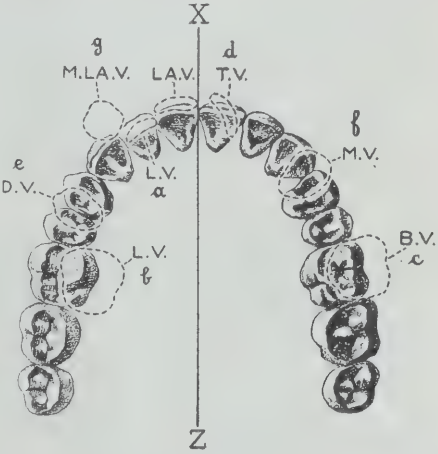


Figure 15
*(a) Linguoversion ou Linguogression (b) Labioversion ou Labiogression (c) Buccoversion ou Buccogression (d) Torsoversion (e) Distoversion ou Distogression (f) Mésioversion ou Mésiogression (g) Labio-mésioversion.*

qu'elle est en *linguoversion* s'il s'agit simplement d'une inclinaison de la couronne ou en *linguogression* si la dent est déplacée lingualement dans totalité ou parallèlement à son axe (Figure 15 en A).

Lorsqu'au contraire la dent est située en dehors de la ligne Ellipsoïdale nous disons qu'elle est en *labioversion* s'il s'agit d'une centrale ou d'une latérale (Figure 15 en B) et en *Buccoversion* s'il s'agit d'une canine, d'une prémolaire ou d'une molaire (Figure 15 en C). Comme dans le paragraphe précédent on emploiera le radical *version* s'il y a inclinaison seulement et le radical *gression* s'il y a mouvement parallèle de la couronne et de la racine.

Quand une dent est déplacée autour d'un axe nous disons alors qu'elle est en rotation ou ce qui est mieux en *torsoversion* (Figure 15 en D).

Si nous séparons maintenant cette même arcade par une ligne tracée au *raphe median* et qui se termine au *point-incisif* (Figure 15 de X à Z) nous pourrons reconnaitre d'autres anomalies qui seront mésiales ou distales suivant qu'elles s'éloignent ou se rapprochent de cette ligne inter-incisive. Elles seront dites en *distoversion* (Figure 15 en E) et en *mesioversion* (Figure 15 en F) ou en *distogression* et *mesiogression,* s'il y a mouvement parallèlement de la couronne et de la racine.

Enfin si nous considérons de nouveau cette même arcade mais cette fois suivant le plan d'occlusion sagittal ou frontal nous disons qu'une dent qui a évolué insuffisament et n'a pas atteint le plan d'occlusion est en *infraclusion* (Figure 16) et en *supraclusion* si elle est trop longue ou dépasse le niveau de ce même plan d'occlusion (Figure 17).

Chacune des malpositions que nous venons d'étudier peut s'associer à d'autres malpositions. Et très souvent nous trouvons associées sur une seule dent des

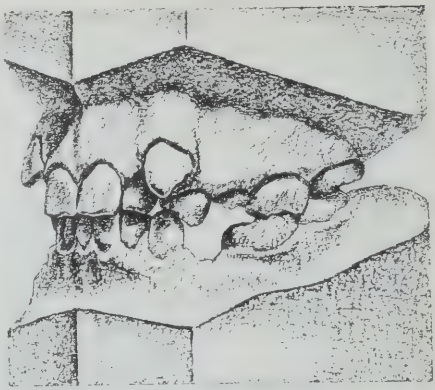

**Figure 16**
*Canine en infraclusion.*

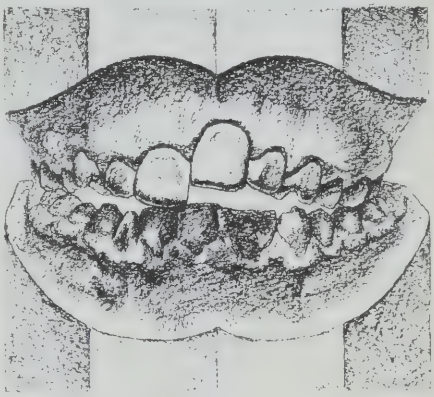

**Figure 17**
*Centrale et latérale en supraclusion.*

malpositions de plusieurs espèces. C'est ainsi que l'on peut rencontrer une dent qui tout en étant en *linguoversion* est en même temps en *torso-mesio-version*; une dent qui tout en étant en *infraversion* est aussi en *labioversion* et ainsi de suite.

(d)—ANOMALIES DE SIEGE—"L'anomalie de direction conduit, si la persistance des facteurs pathogéniques existe, aux anomalies de siège; et ce sont le plus souvent les canines et les prémolaires c'est-à-dire les dents les plus tardives, qui en souffrent. Cependant les incisives n'en sont point exemptes." *(Boissier.)*

Une variété curieuse de cette classe est la *transposition* ou *transversion,* deux

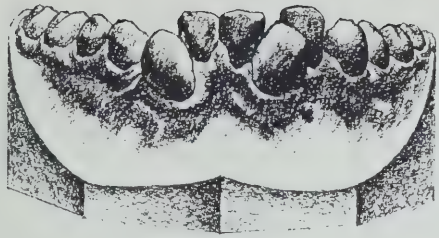

Figure 18
*Canines inférieures en transversion.*

dents généralement voisines ayant permuté comme c'est le cas dans la (Figure 18) ou l'on voit les canines inférieures à la place des latérales. Ces cas de *transversion* sont heureusement des plus rares.

Si nous résumons maintenant ce premier groupe des anomalies dentaires nous disons; que les anomalies des dents considérées individuellement peuvent être des anomalies de *nombre* par *augmentation* ou *diminution,* ou des anomalies de *forme* par *nanisme* ou *gigantisme*, ou des anomalies de *siège* qui portent le nom de *transversion,* ou enfin des anomalies de *direction.*

Dans les anomalies de *direction,* la dent peut être déplacée dans trois directions différentes et nous utilisons.

(a)—"les préfixes et radicaux *buccoversion* pour les déplacements vers le vestibule, *linguoversion* pour les déplacements vers la langue." *(Izard.)*

(b)—"Les prefixes et radicaux *mesioversion* pour indiquer le rapprochement du point incisif et *distoversion* pour en marquer l'éloignement." *(Izard.)*

(c)—Les préfixes et radicaux *infraclusion* lorsque la dent n'a pas assez évoluée ou n'a pas atteint le plan d'occlusion et *supraclusion* lorsqu'elle l'a dépassé.

(d)—Les préfixes et radicaux *torsoversion* lorsque la dent est déplacée autour d'un axe vertical.

N.B.—Lorsqu'une dent est déplacée parallèlement à son axe on remplace le radical *version* par *gression.*

*(à suivre)*

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# *La Prévention des Effets Post Opératoires dans les Cas d'Extraction et d'Anesthésie Locale*

***Principales causes d'accident—Prévention—Traitement***

JE ne vous apprendrai rien sans doute en vous disant que l'extraction des dents et l'anesthésie locale donnent trop souvent lieu à des accidents qu'il serait souvent possible de prévenir. Les causes d'accident sont multiples. Relevons les suivantes: diagnostic erroné; insuffisante connaissance de l'anatomie, de la physiologie ou de la pathologie; ignorance de l'état psychique du patient: défaut d'aseptie; instrumentation mal choisie; manque de précision technique; recours à un agent anesthésique contre-indiqué; désintéressement après l'intervention; traitement post-opératoire inapproprié.

Quand un patient se présente chez le dentiste, il se plaint qu'il a mal à telle dent ou qu'il a mal aux dents, sans pouvoir toujours localiser sa douleur. Le dentiste cherche la cause apparente du désordre qu'on lui signale, mais ce ne doit être là qu'un point de départ. Il est en présence d'une manifestation qui l'induira souvent en erreur s'il ne prend pas la peine de regarder au-delà. Dans tous les cas, un examen complet de la bouche s'impose. Il importe de relever tout symptôme anormal: excroissance, plaie de la muqueuse, déformation, infection, fistule, ulcération, oedème, densité ou porosité osseuse des maxillaires, formation défectueuse des dents, stomatite,

gingivite pyorrhée alvéolaire, etc. L'examen de la bouche nous met parfois sur la piste de quelque trouble fonctionnel ou même de quelque maladie organique.

L'attention du dentiste doit donc s'étendre au-delà du champ opératoire qui intéresse directement son art. Les symptômes extérieurs que présente le patient comportent souvent d'utiles indications. Il est important que le dentiste se rende compte de l'état physiologique ou pathologique du patient, s'il veut que son intervention se fasse dans les conditions les plus favorables possible.

Le dentiste doit se préoccuper tout particulièrement de l'état psychique du patient. Beaucoup de gens ne franchissent jamais sans crainte le seuil d'un cabinet de dentiste. Leur appréhension est parfois justifiée par leur propre expérience ou par celle de quelqu'un de leurs amis. Le plus souvent, elle est purement instinctive. Il est donc très important que le dentiste atténue cette appréhension, s'il ne peut la faire disparaître, en inspirant confiance à son patient, tant par son accueil sympathique et son attitude assurée que par l'affirmation de sa compétence. Lorsque le dentiste réussit à inspirer la plus entière confiance à son patient, l'état physiologique de celui-ci est meilleur et, par conséquent, l'assimilation et l'élimination de la médicamentation employée s'effectuent avec plus de facilité. Ainsi le patient, subissant avec beaucoup moins de fatigue l'intervention, sera moins exposé aux ennuis post-opératoires.

Lorsque le dentiste a regardé la dent dont le patient se plaint, qu'il a fait un examen général de la bouche, qu'il a relevé les symptômes extérieurs susceptibles de lui fournir quelques indications et qu'il s'est rendu compte, dans la mesure du possible, de l'état physiologique ou pathologique du sujet, il est en mesure de faire un diagnostic.

Le diagnostic consiste à discerner si un patient est en bonne santé ou s'il est atteint d'une maladie qui se manifeste par des indices ou des symptômes, dont quelques-uns seulement sont pathologiques. C'est, en d'autres termes, la détermination scientifique du caractère distinctif d'une maladie ou d'un désordre. Le diagnostic buccal se fait au moyen de la comparaison de l'état des dents et de la structure adjacente avec l'état normal. Il va sans dire qu'il est indispensable d'établir un diagnostic exact si l'on veut être en mesure de faire un pronostic et de recourir au traitement approprié, puisque c'est le diagnostic qui détermine le traitement. On ne peut faire un diagnostic exact qu'en coordonnant les symptômes subjectifs, les manifestations objectives, les antécédents, l'histoire du cas, les constatations cliniques et, parfois, les rapports de laboratoire et les révélations de la radiographie. Il ne faut jamais hésiter, quand cela semble utile, à prendre le nombre nécessaire de photos de divers formats et à des angles différents, et, s'il y a un doute, à consulter afin d'en obtenir une interprétation judicieuse. La radiographie, outre qu'elle rend de grands services au dentiste, accuse parfois l'existence de maladies ou de troubles qui ne relèvent pas de sa spécialité, quoique leur cause déterminante ou quelques-uns de leurs effets puissent être d'ordre dentaire. Bien entendu, la radiographie, qui est un précieux auxiliaire, ne suffit pas à fonder un diagnostic. Elle ne peut que fournir quelques éléments pour l'analyse dont chaque cas doit faire l'objet. Un bon diagnostic exige une parfaite compréhension de toutes les méthodes dont nous disposons.

Rien n'importe autant, quand on fait un diagnostic, qu'une connaissance approfondie de l'anatomie dentaire, ainsi que de l'ostéologie, de la myologie et de la neurologie de la cavité buccale et des régions environnantes.

La dentisterie est considérée, de nos jours, comme une branche de l'art de guérir. Elle n'étudie pas seulement le désordre appartenant à son domaine propre, elle se préoccupe tout autant de l'état général du patient. Il est donc de plus en plus nécessaire que le dentiste soit en mesure de juger de l'état physiologique ou pathologique du patient, et de compléter son diagnostic par des constatations d'ordre général. Cela ne veut pas dire que le dentiste doive se substituer au médecin ou s'immiscer, de quelque façon que ce soit, dans la sphère d'action de celui-ci. Tout au contraire,

si le dentiste pousse son examen bien au-delà de la région où s'exerce son art, c'est dans l'intention de consulter un médecin ou un chirurgien, dès qu'il découvre chez un patient des indications ou des symptômes révélateurs d'une maladie ou d'un désordre échappant à sa compétence. Il arrive souvent de graves accidents quand un dentiste ne recourt pas, lorsque c'est nécessaire, à la collaboration du médecin, ou ne le fait pas en temps utile.

Le diagnostic une fois établi, il s'agit de déterminer quel est le traitement ou l'intervention qui s'impose. Si le diagnostic est bien fait, la ligne de conduite du dentiste est toute tracée. Dans les cas où un simple traitement suffit, il ne se présente guère de difficultés. Mais, le plus souvent, une intervention est nécessaire. Avant d'intervenir, il est indispensable que le dentiste motive rigoureusement son action, en ayant en vue non seulement le soulagement immédiat du patient, mais encore les circonstances dans lesquelles il pratiquera l'intervention que son diagnostic justifie, et les conséquences qu'elle sera susceptible d'avoir.

C'est le moment de se rappeler ce que disait un vieux médecin français: "Il n'y a pas de maladies, il n'y a que des malades". On ne doit pas traiter les patients en série, comme on frabrique des pièces de mécanique. Il faut, au contraire, considérer chaque patient comme un cas particulier. Le choix de l'anesthésique doit être déterminé, non pas par l'usage courant, mais par l'état du patient d'abord, et par la nature de l'intervention ensuite. Qu'il s'agisse d'anesthésie locale ou générale, il est souvent recommandable d'administrer au préalable au patient un sédatif, un hypnotique, un narcotique ou un stimulant, selon le cas. On crée ainsi un état psychique plus favorable. L'emploi quotidien que nous faisons des anesthésiques nous expose peut-être à perdre de vue que ces substances présentent de graves dangers. N'oublions pas qu'étant toxiques, elles modifient l'état physiologique du patient. Il convient donc de choisir, parmi toutes les substances dont nous disposons, celle qui, dans chaque cas, est susceptible de donner un maximum de rendement pour un minimum d'inconvénient. On y parvient parfois, en anesthésie générale, en mélangeant des produits qui se corrigent les uns les autres ou, au besoin, en en employant deux successivement.

L'anesthésie locale, qui ne présente pas moins de dangers, exige les mêmes précautions. Il faut tenir compte de l'état du patient, qui doit toujours être le premier objet de nos préoccupations. Il convient donc d'administrer, dans des conditions d'aseptie absolue, l'anesthésique le plus approprié; d'en réduire autant que possible le volume et le pourcentage en observant la plus stricte précision, et d'en atténuer la toxicité par une injection lente.

Il importe que le dentiste ait sans cesse à sa disposition l'instrumentation nécessaire. On doit entendre par là non seulement les instruments dont il se sert pour son intervention, mais encore le matériel dont il pourrait avoir besoin, en cas de complications imprévues. Nous ne croyons pas qu'il y ait lieu d'insister sur la nécessité d'une technique irréprochable, parce que chacun sait que la moindre erreur de technique peut avoir les conséquences les plus fâcheuses.

Les accidents post-opératoires donnent lieu, le plus souvent, aux manifestations suivantes: douleur excessive, oedème, fièvre, température instable, phlegmon, ostéomyélite, nécrose, infection localisée ou généralisée, trismus complet ou partiel, insomnie, déglutition difficile, hémorragie, asséchement de l'alvéole, affaissement du patient.

Lorsque le dentiste se trouve en présence d'un accident post-opératoire, il doit évidemment faire un diagnostic, afin d'en découvrir la cause déterminante. La température du patient donne généralement des indications précieuses. L'examen doit d'abord se concentrer sur l'endroit où l'intervention a eu lieu. Il doit porter ensuite non seulement sur l'ensemble de la bouche, mais sur les régions environnantes. Il doit s'étendre enfin à l'état général du patient.

Le diagnostic indique s'il y a lieu de recourir à un traitement purement local ou

à un traitement général, ou aux deux à la fois. Même quand on se trouve en présence d'un accident auquel il est possible de remédier au moyen d'un traitement local, les cas présentent une grande variété; ils exigent, par conséquent, des soins divers. Il serait impossible et même imprudent de généraliser. Nous aurons peut-être l'occasion, au cours de la discussion qui suivra, d'exposer en détail quelques-uns de ces cas. Lorsqu'un accident post-opératoire demande un traitement général, on ne doit jamais hésiter à recourir au médecin ou, le plus souvent, au chirurgien.

Il y a sans doute des accidents post-opératoires imprévisibles. Nous sommes convaincus toutefois que la plupart des complications qui se produisent pourraient être évitées, si nous tirions tout le parti possible des moyens que le perfectionnement de l'enseignement et de l'instrumentation de la chirurgie dentaire met à notre disposition, et surtout si nous apportions à l'étude de chaque cas notre plus profonde attention.

*Dr. Ernest Charron.*

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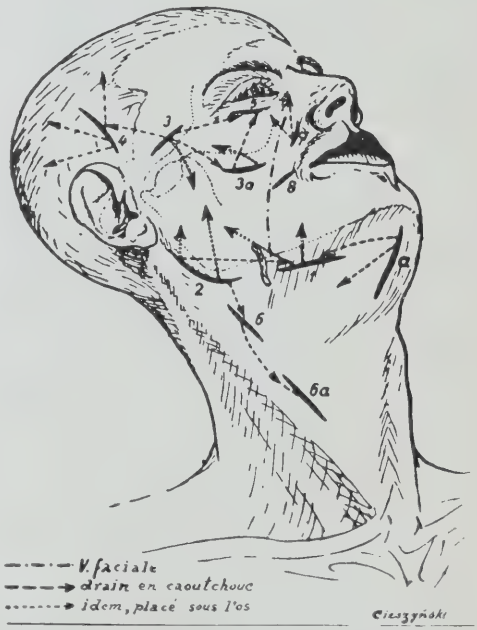
# *Topographie des Phlegmons de la Face*

## Incisions et Drains

Z. Stomat. 35, H.I, 32 (1937) publie un article digne d'intérêt. Cieszynski y décrit la formation de pus sous le menton entre les plans musculaires à la base de la langue; dans la loge sous-linguale et la sous-mandibulaire; l'infiltration lointaine de pus en arrière vers l'espace ptérygo-maxillaire et latéralement dans la loge parotidienne.

L'auteur traite chirurgicalement les phlegmons de la face et fait ses incisions de manière à ne causer aucune défiguration: ni cicatrices marquantes ni lésions nerveuses.

Pour drainer la région mentonnière, il préfère l'incision (a) dans le plan sagittal, du bord inférieur de la mandibule à l'os hyoide. Avec une pince hémostatique, il pénètre dans la région sous-mentale et la sous-linguale; des drains en caoutchouc sont laissés dans l'ouverture élargie à la pince.




En ouvrant la loge sous-maxillaire, il faut éviter la veine faciale et l'artère maxillaire externe; on incise (1) à une largeur de doigt en avant de l'artère et en-dedans du bord inférieur du maxillaire, parallèlement à celui-ci.

Une incision (2) parallèle à la branche montante, et partant à mi-hauteur de celle-ci, pour descendre sur 4 cm. de long en contournant l'angle mandibulaire, donne accès à tout l'espace parotidien. La pince hémostatique n'ayant pas d'arrête tranchante n'offre aucun danger de blesser le nerf facial.

En cas de trismus et d'oedème prononcé, l'auteur s'abstient d'extraire si ce n'est pour permettre l'écoulement de pus emprisonné dans l'os. Par de fortes fièvres, il est contre-indiqué de faire l'intervention osseuse, car elle cause toujours une élévation de 1 à 2 degrés de température.

*Docteur J. E. DE WEVER, D.D.S.*

# *In Memoriam*

Dr. Walter G. Thompson, dentist, soldier and sportsman, has passed away. Dr. Thompson was a well-known figure among his Ontario colleagues and a very prominent citizen of the city of Hamilton.

During the last few months it was apparent that Dr. Thompson's health was failing, yet true to his nature he would not and did not give up or complain. The news of his death came suddenly and a pang of sorrow struck deeply into the hearts of his many friends.

It was said of him, "He had a great heart, was impulsive and was a loyal friend." To know him was to know the truth of this assertion. He gave freely of his ability, his energy and his money in the interests of the profession which he at all times endeavoured to promote. His genial smile and friendly greeting will be missed in many places.

Dr. Thompson was a native of Waterdown, Ontario. He was graduated from the School of Dentistry of the Royal College of Dental Surgeons of Ontario in 1899. Since that time he has practised in Hamilton.

He occupied with distinction many offices within the profession. He was a member of the Board of the Royal College of Dental Surgeons of Ontario for ten years, six of which he was chairman of the discipline committee. In this connection his work is well known for the high ethical standards he endeavoured to maintain. During the years 1934-38 he was Director of Dental Services in the Province of Ontario. He was Past President of the Ontario Dental Association, a former director of the Dental Department of the Hamilton Board of Health and a Past President of the Hamilton Dental Society. He was elected a fellow of the American College of Dentists. He was a former member of the Hamilton Parks Board and a member of the Board of Hospital Governors.

During the war years he was a member of the 13th Royal Regiment. He organized and commanded the Dental Corps in Military District No. 2 with the rank of Lieut.-Colonel. Having completed twenty years as an officer of the Royal Hamilton Light Infantry, he received the officer's decoration of the Colonial Auxilliary Forces.

Dr. Thompson, less than one year ago, was elected for the ninth consecutive time, President of the Hamilton Amateur Athletic Association. His almost paternal interest in the Tiger Football Club is known universally in sporting circles.

He was a member of the Hamilton Club, Acacia Lodge A.F. & A.M.; Scottish Rite A. & A.S.R. and Xi Psi Phi dental fraternity.

Dr. Thompson lived a virile, active and successful life. He was a competent organizer, energetically pursuing his undertakings to completion. He gave most willingly and liberally of his time, talents and strength.

This tribute cannot be concluded without a word about Dr. Thompson's home life. His home was his castle and he greatly enjoyed having his friends visit him there. The sympathy of a legion of friends and colleagues goes to Mrs. Thompson and his son, Dr. Hector.

T. R. Marshall.

LIEUT.-COL. WALTER G. THOMPSON, D.D.S., F.A.C.D.

*Died January 8th, 1939.*

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# A Review of Nitrous Oxide Analgesia

by JOHN W. CLAY, D.D.S., Calgary, Alberta.

DENTISTRY has advanced rapidly in technical ability since the turn of the century. On the splendid foundations of mechanical science passed on to us by the leaders and teachers of that time, dental practice has grown in technical skill, in knowledge of the harm to the individual caused by chronic infections around the teeth, and with the use of local anaesthetics, a great portion of the pain caused by dental procedures has been eliminated.

This last mentioned advance is not the least important. Through no fault of these pioneers, along with the legacy of splendid workmanship, we have inherited a public who fear the dentist, and all his works. This being so, it behooves us to further eliminate pain from our dental procedures and as we do so the general fear of the dentist will be allayed. In a generation or so we may hope that in the minds of most people "dentist" and "dental work", will not be synonymous with pain.

It is well therefore that all new methods, appliances, and drugs, which promise, or it is promised for them, to lessen the pain caused by dental operations, should be given a fair trial. The question now arises — Is nitrous oxide analgesia, of sufficient value to partly or wholly supplant the very useful method of pain elimination by the use of novocain, which has done so much for our patients in recent years?

Thirty years of dental practice has brought to the writer many disappointments in the trial of new methods, appliances, and drugs. Many times extravagant claims have not been justified and something else goes into the discard. On such occasions one is reminded of the advice of old Mr. Weller, to his son Samivel, "When you're a married man, Samivel, you'll understand a good many things as you don't understand now; but vether it's worth while goin' through so much to learn so little, as the charity-boy said wen he got to the end of the alphabet, is a matter o' taste. I rayther think it isn't."

Nevertheless there are the new methods, the new appliances and the new drugs which we must try, some of which take us a short step, or sometimes a long stride towards our objective—better dental service. After the administration of nitrous oxide analgesia in about 800 cases I am satisfied it can be placed in this category, that it is a worth while addition to dental equipment and skill. In my practice it has come to stay, until such time as the next and inevitable improvement comes along and pushes it aside.

In discussing the value of nitrous oxide analgesia it is my purpose to limit

myself to a brief practical report of my experiences in its use. There is little that has not been well said many times about the gas itself, the methods of administration, its effects and symptoms, advantages and disadvantages. Clear instructions for the use of the analgesia machine are also available.

Ten or fifteen years ago, those of us who used nitrous oxide and oxygen anaesthesia found analgesia a valuable aid in cavity preparation.

The difficulty of maintaining an analgesic level with a machine designed for anaesthesia and without patient control, left a good deal to be desired. Nevertheless in a considerable number of selected cases results were obtained which were very satisfactory to both patient and dentist. In my own experience, while a fair percentage of patients found the experience not particularly pleasant, and occasionally quite the reverse, due principally to a fluctuating level of analgesia bordering at times on anaesthesia, the general result was well worth while. The developments in the field of local anaesthesia however produced a more satisfactory agent, and to a great extent analgesia went into the discard.

To-day as the result of a suitable machine being made available, and an aggressive advertising campaign which has not been without its unpleasant features, elimination of pain by the use of nitrous oxide has again become for many dentists an important part of dental practice.

On the road from consciousness to anaesthesia, as nitrous oxide displaces the oxygen carried to the brain by the red blood cells, the patient reaches what has been called the "threshold of analgesia", well before there has been sufficient oxygen displacement to produce unconsciousness. One hundred and fifty years ago Sir Humphrey Davy noted this effect in his experiments with nitrous oxide, and nearly one hundred years ago Wells was struck by the same characteristic. At a considerably lower, though not constant level, beyond analgesia, the patient reaches the threshold of anaesthesia, and at a level further down, as more oxygen is displaced, the vital respiratory and cardiac centres become unable to function.

The very variable effects of the increasing substitution of nitrous oxide for oxygen in the red blood cells is a very interesting study.

Relief from pain by the use of this agent, is accomplished in a very different manner from the pain elimination of block anaesthesia. In this latter case sensation from the area blocked is prevented from reaching the brain, while analgesia, from the Greek, means literally insensibility to pain. In most cases the afferent impulses register with greatly reduced intensity, and in a small percentage not at all.

### Comparison With Block Anaesthesia

The patient's opinion is very important in an evaluation of the relative efficiency of the two methods under discussion. This must be so for the reason that the whole purpose of their use is the elimination of unpleasantness from operative procedure.

Recently I have completed a series of one hundred consecutive administrations followed by a written answer to the four following questions. It is obvious that the answer is entirely the business of the patient. The first two questions could not be answered exactly and must be summarized.

1. Was the experience pleasant or unpleasant and to what degree?

| | |
|---|---|
| Distinctly unpleasant | 4 |
| Slightly unpleasant | 14 |
| Not at all unpleasant | 50 |
| Pleasant to very pleasant | 32 |

2. To what extent was pain eliminated?
   Unsuccessful ..... 4
   Slightly to moderately helpful.....15
   From quite satisfactory to complete pain elimination.....81
3. Would you wish to have analgesia used again?
   No ..... 8
   Yes .....92
4. If you have had block anaesthesia used previously, which method do you prefer?
   Block anaesthesia..... 4
   No choice..... 8
   Analgesia .....52

The above results, on the whole very favourable, should be discounted to some extent for two reasons. These two reasons are patient and operator. A recent experiment in the study of topical anaesthesia by Dr. M. L. Tainter of San Francisco produced an interesting result. Students were given coloured normal saline solution labelled "topical anaesthetic" and asked to report on its efficacy. Forty-three per cent of the reports expressed the opinion of patient and operator that the pain of needle puncture had been reduced.

It is quite possible that in the above series of tests similar colouring of judgment influenced the results to some degree.

How can pain be measured? We can be exact in the weighing of a pound of sugar but not in the measurement of pain. It does appear that there are two parts to consider. One is physical and the other psychic. After a considerable experience it seems to the writer, that, on the average, block anaesthesia eliminates physical pain more effectively than analgesia. However the mental attitude towards the pain sensation, or the psychic effect is important. In this respect analgesia is very effective, while there is frequently a distinct psychical disturbance when novocain is used, as well as unpleasant injection sensations and more or less after soreness. Perhaps the best illustration of this effect of nitrous oxide is a recent comment by a Calgary physician. He was "intellectually aware of pain, but emotionally had no discomfort. It was impersonal." Or to put it another way; a mouse in his travels located a leaking beer keg. After a taste or two he helped himself freely. Before long he jumped on to the keg, and squeaked as loudly as possible,—"Who's afraid? Bring on your old tom cat."

I am inclined to think that a similar psychic effect, in addition to a definite and satisfactory relief of physical pain, is the explanation of the majority vote for analgesia, and the administration of the agent is much less objectionable to the patient.

In addition to the above, there are several other qualities necessary before we can consider this method advisable.

Safety is important. In a total of about 800 administrations, one patient only showed symptoms which were at all disturbing from this angle. This was a young lady who had, on a previous occasion, turned a grey colour with stoppage of respiration, under nitrous oxide anesthesia. Under analgesia the same colour change occurred, with very poor respiration. The inhaler was removed, no oxygen was administered in this case, and the patient quickly recovered. It is hardly necessary to add that nitrous oxide should never be administered without oxygen available for instant use.

One must conclude that analgesia is a very safe agent for the relief of pain. It has also the advantage that the circulatory disturbances which are not infrequently noticed when novocain solutions are injected, seldom occur. There is a saving of time in operating, as with block anaesthesia, and while analgesia is the more expensive method, one is well repaid for the slight extra cost.

For some obscure reason, there is an unnecessary tendency to work quickly and less carefully, when using this agent. In dealing with deep cavities the pulpal walls should be excavated with greater care than if sensation were normal. On completion of the preparation, and removal of the inhaler, a careful examination may show slight marginal defects which can be corrected with little discomfort to the patient. In my experience I have found it less disturbing to allow the respiration to remove the nitrous oxide from the normal patient than to make the sudden change by turning on oxygen. Sterilization and a capping of the sensitive dentine covering the pulp can usually be accomplished also, before the analgesic effect has all been lost.

There remains to be accounted for the difficult problem of the causes of failure to produce satisfactory analgesia in some cases, and the occasional patient who finds the inhalation most unpleasant.

Confidence of the patient in the operator and a confident attitude on the part of the operator contribute a great deal more than in many other operations to the results. Inhalation of nitrous oxide has the effect of submerging, to some extent, the inhibitions of reason. Emotions become more dominant. Psychic control and a quiet conversation directed to that end, assist very considerably with the more difficult patients. A knowledge of the machine, and a thorough knowledge of the effects of the agent, which comes from experience, will reduce considerably the percentage of failures.

The most frequent cause of unpleasant experience and failure to produce analgesia is improper breathing on the part of the patient. Rapid breathing, either shallow or deep, is certain to produce unsatisfactory results. If shallow, very little gas reaches the alveoli of the lungs, and it is exhaled before it has time to be absorbed. In deep breathing, while the mouth is closed during induction, a negative pressure occurs which is very disturbing to the patient. At this time and also when the mouth is open with a freer airway the percentage of nitrous oxide is so reduced that no analgesia is possible.

If the patient, in spite of instruction, persists in faulty breathing, it is better to stop induction, explain what is required, and start again. Unless the patient will co-operate by normal breathing with regular pressure on the bulb, failure will almost certainly be the result. Occasionally the patient will breathe normally but in deep analgesia overlook the regular pressure on the bulb. This difficulty more frequently occurs with children, with whom results are often satisfactory, down to 8 or 10 years of age, if the nurse takes over the business of pressing the bulb.

Unpleasant effects and lack of analgesia are mostly the results of faulty breathing. If this cannot be corrected analgesia for pain elimination is usually a failure.

There is also a small percentage of patients who breathe normally but hardly any relief of pain occurs. One can only conclude that the threshold of analgesia is so close to anaesthesia that for them the method is not practical. This is in line with experience in anaesthesia. With some patients the threshold of anaesthesia is so close to the asphyxia level, that satisfactory results with nitrous oxide and oxygen alone and without premedication, are not possible.

In conclusion it is safe to say that while there are wide variations in the analgesia and psychic effects of nitrous oxide, it is a valuable agent for pain elimination in dental practice.

*Wherein we present an authoritative statement upon one of the greatest health problems facing the public and the dental profession today.*

by . . .
F. C. HUSBAND, D.D.S., Toronto, Ontario.

# Dental Caries

WHAT is the principle involved as evidenced by the keeping of the histories of cases of caries?

It may be stated briefly as follows:—Caries results from the ingestion of carbohydrates beyond the *needs* of a given individual. Further, the degree of over-ingestion, over a period of time, is the measure of the degree of caries resulting.

Carbohydrates are the foods that supply heat and energy to the body. They replenish energy lost rather than act as a stimulant to induce it. The display of energy is a matter of the individual temperament plus environment. When just enough are consumed by an individual for his needs, there is absence of caries. By 'just enough,' we mean what is required for immediate repair together with what can be stored in the liver and muscles. In cold weather, for example, more carbohydrates are needed than in warm weather. The more energy an individual uses the more carbohydrates he requires. The energetic person requires more than his lethargic brother. Thus if the lethargic person consumed what was just sufficient for his energetic brother, he would develop caries while the energetic one would not.

Types that require more carbohydrate food are the enthusiastic, the highly emotional and the bodily active. Types that require less are the slow moving, the placid, the lethargic. Again, the same individual requires greater or lesser quantities as he varies in his own activities. As one gets older, energy decreases, and less 'energy food' is required.

Certain foods are more concentrated or richer in energy fuel than others. These are sugar, confections, jams, preserves, sweet beverages, and natural sweets as dates, figs, raisins, honey, maple syrup, etc. It therefore does not require a large quantity of these to carry an individual over the line of "need" to the "excess" area.

One must recognize the individual's temperament to appraise, in some degree, his needs. The onset and degree of caries, in the end, will give a true picture of the amount of excess ingested. How was this conclusion reached?

Over a period of many years, histories were made of the food intake of many patients who were affected with rampant caries. The worst cases were chosen because errors in habits could be more easily detected than in border cases. Similarly, histories were made of patients immune or nearly immune to caries. When these histories were compared, the difference in habits of the two classes

was at once apparent, and it had to do with the carbohydrate class of food. It showed a much higher intake in the susceptible group than in the immune group.

Reversing the process, the susceptible cases were persuaded to adopt the food habits—especially as to carbohydrates—of the immune patients, and the change was immediate and impressive. Immunity was established and was continuous as long as habits were unchanged.

Further checking brought to light other facts:—

1. The relative needs of different types of individuals, explaining the appearance of caries in one individual, while the brother or sister, for instance, living on the same food, was immune. The immune individual was energetic and active and used up his supply of carbohydrate or energy food. The susceptible one was lethargic and did not require or use up his supply, thus leaving him with an excess.

2. Diets which were very much out of so-called balance but which were very moderate in carbohydrates, resulted in other mouth and systemic disturbances, but, were completely immune to caries.

3. The addition of cod liver oil, citrus fruits, milk and calcium to the diets, over-rich in carbohydrates, of susceptible cases, did not cause the disease to abate; and not until the excess of carbohydrate was corrected did immunity appear.

4. The age of puberty is sometimes accredited as being a cause. Avoidance of excess, especially of the concentrated types of carbohydrates, will keep patients of this period, immune.

5. Middle life and old age should be treated in the same manner. As activity and energy lessen, less of the "energy" food should be eaten to avoid excess in the tissues.

6. Pregnancy is almost universally regarded as an inescapable cause of caries. Due to fickleness of appetite during this period, patients veer to sweets, white bread, cake, etc. Precaution against excess, as before outlined, will unfailingly result in immunity to dental caries.

7. Artificially fed infants are not, per se, subject to caries. Observations as to the carbohydrate food factors, already referred to, will prove this statement. The writer's own children, for example, were artificially fed yet developed no caries up to the age of 15 years, when "parties" came prominently into the picture. Fortunately their training and the contrast experienced sufficed to cause them to return to former food habits,—and caries, as promptly, disappeared. At their ages of six months, it might be interesting to record, the writer predicted to a number of his friends in the profession that these children would have no caries till they were fully grown, provided he was with them to guide them. The matter was in due time brought to the attention of these friends.

8. Breast fed infants develop caries *while being entirely thus fed*, that is, no supplemental feeding of artificial food. The case to be cited was a male,—the youngest of five, each of whom had a similar history.

This child erupted four lower incisors soon after birth. He was in his ninth month, but still being nursed,—no supplementary feeding. History of vomiting after every feeding. Appearance, pale and sickly. Was sent to the dental clinic because the four lower incisors were decayed down to the gum line and the gums, themselves, very much inflamed.

The hospital, which sent the case, had made an analysis of the "nurse" and declared it normal. Later it was ascertained that the analysis only concerned "fats".

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A complete analysis was later made after obtaining the food history of the mother herself, which was as follows:—

8 a.m. (nausea) three cups of tea, three heaping teaspoonfuls of sugar per cup. 10 a.m. toast and three cups of coffee, sugared as above. 12 a.m. bread and butter, three cups of coffee, sugared as above. 3 p.m. sweet biscuits, tea as above. 6 p.m. meat, vegetables, dessert, coffee as above. 10 p.m. sweet biscuits, tea as above. (54 heaping teaspoonfuls of sugar, per day, in addition to sweet biscuits and white bread and butter made up the bulk of her daily diet. The 6 o'clock meal, alone, provided meat and vegetables and, perhaps, some fruit.

Analysis of the nurse compared with standards showed:—

1. Fats, normal.
2. Water content, normal.
3. Inorganic material, normal.
4. Proteins, low.
5. Carbohydrates (milk sugar), very high.

9. Caries, having begun, will not progress if carbohydrates are reduced to the level of "no excess".

Cases were put under observation for a period of five years where caries had very definitely set in. Nothing was done, save correcting the food error. At the end of the five year period no apparent increase in the size of the cavities was observed.

Concrete examples, too numerous to mention in a paper of this kind, are linked up in the investigation. Material is prolific, and if the research worker and if each practitioner of dentistry uses the above as a key to the situation, he will, by careful observation, become convinced as to the clinical causes of caries; he will also be in a position to evaluate biological and physiochemical phenomena.

The Miller Theory of caries, with it's three factors,—the film, the micro-organisms and the carbohydrate pabulum,—seems to the writer to remain unshaken. If *any one* link in this triple link chain be broken, caries will cease.

1. *The Film.* Attention of the profession has been directed to the film and its removal. It is not impossible to remove film, but it is difficult. Even the most conscientious operator may not be positive that he has succeeded 100%.

Moreover, assuming that he has had 100% success, what does it avail? The film begins to form almost immediately if conditions favourable to such formation are not corrected. The patient certainly cannot be relied on to completely remove it. One has but to visualize the concave surfaces in the interproximal spaces to realize this. This *link* is hard to break by artificial means, in fact, as far as the patient's effort is concerned, it is an impossibility.

A physiological means to prevent film formation is available, but that is a nutritional consideration.

2. *The Micro-organisms.* Micro-organisms in the human mouth cannot be eradicated. *This link* is unbreakable.

3. *The Pabulum.* The question is repeatedly asked, "Does the carbohydrate that causes decay of the teeth come from the residue left in the mouth after eating, or does it return to the mouth after having been swallowed and digested?"

The following are well recognized phenomena:—

A. Mouths that are scrupulously cleansed after every meal show dental caries. These are cases where the ingestion of carbohydrates is excessive.

B. Mouths that are seldom, if ever, artificially cleansed, show no dental caries. These are cases where carbohydrate ingestion is moderate—sweet foods, especially, being very sparingly used.

A diagrammatic picture might be drawn to throw light on this problem of carbohydrate nutrition. Each individual has, as it were, pigeonholes to fill with this type of food, the capacity of these pigeonholes being what was described earlier in the paper as "what could be immediately used, plus what could be stored in the liver and muscles."

So long as there is pigeonhole room for the carbohydrates ingested, there will be no surplus on which the micro-organisms can live. What has been ingested will all be converted into vital organic tissue. Even a residue left in the mouth after a meal will be ultimately digested and assimilated by the tissues hungry for this element, and the mouth will be left clean.

Should more be ingested than the pigeonholes will accommodate, there will be a surplus having no place of abode, —unwanted by the tissues. This surplus becomes pabulum for micro-organisms to thrive on, break down and give off the destructive acids.

Further, this surplus naturally acts as an irritant in the system and results, among other phenomena, in causing excess mucin in the saliva (ropyness) due to the irritation, (see Pavlov's experiments on dogs). This mucin has a carbohydrate radicle which may be a factor in caries.

What was said above of carbohydrate residue left in the mouth, does not obtain where there is ingestion of excess. The pigeonholes are full, and, besides, there is a limit to the amount of food the digestive juices can take care of.

*This link* in the chain, with the understanding and co-operation of the patient, is not only easily broken but is the only rational way of attacking this human scourge.

The mere reducing, in the daily diet, of carbohydrates—the foods that are converted into sugar—to the point of body need, will positively accomplish it.

Check up each case every three or four months and if any caries is evident, further reduce the amount of the carbohydrates. Repeat till immunity is constant over continued periods. The patient, in the meantime, is being weaned from excesses in these foods and developes a real liking for the varied diet which contains the essential elements for complete nutrition.

If time be a factor in an investigation of this kind, the writer has for some thirty odd years made this phase of dentistry a particular interest, and he has yet to see:—

1. The first case of caries made immune by any other means.
2. The first case of caries that cannot be made immune by this means.

The following "YARDSTICK or HEALTH MEASURE" was developed in connection with these investigations. It is submitted here in the hope that it may be of help to some who are interested in this subject.

A YARDSTICK or HEALTH MEASURE

1. SUGAR and SWEETS. The less the better—(sugar, confections, jams, preserves, cake, sweet beverages, etc.).
   NATURAL SWEETS. Use very moderately—(dates, figs, raisins, honey, maple syrup, etc.).
2. GRAIN PRODUCTS—Use moderately, 2 to 4 ounces per day—(bread, buns, biscuits, toast and other whole wheat flour products. A slice of whole wheat bread, ⅜ inch thick, weighs 1 ounce. When doing hard physical work, increase the 4 oz. amount).
3. THE LESS STARCHY VEGETABLES, NON-SWEET FRUITS and GREENS. Use liberally. (This group, in wide variety, should form the main bulk in our dietary. Some uncooked fruit, vegetable and green, each day, is recommended.
4. PROTEINS. Use moderately. 2 to 4 ounces per day. (Meat, liver, fish, fowl, eggs, milk, cheese, peas, beans, lentils, nuts, etc. A solid piece of meat, the size of an average rib lamb chop, would weigh 4 ounces.)
5. FATS. Use moderately. 1 ounce per day. (Butter, cream, meat fat, etc. A patty of butter 2½ inches square and 5/16 inch thick weighs 1 ounce.)
6. MASTICATE and mix with saliva all foods, including liquids, very thoroughly before swallowing. Remember that the first stage of digestion takes place in the mouth.
7. OVEREATING and, as a rule, eating between meals and at bedtime should be avoided. Over-indulgence in any food, even an otherwise well balanced diet, results in impaired digestion and autointoxication.
8. EXERCISE, REST, EQUANIMITY. Exercise,—walking, stretching, bending, or more vigorous types where permissible. Rest and relaxation,—adequate amount for both mind and body, particularly before, during and after a meal. Equanimity—cheerfulness and a contented mind.
   (Worry and sloth are enemies of good health.)

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# *Pacific Coast Dental Conference*

## PRESIDENT'S ADDRESS

**(Presented at Vancouver, B.C., July 5, 1938.)**

IT IS with much pleasure that I welcome you of other associations to British Columbia. I sincerely hope that your visit here will be a pleasant and a profitable one.

We are proud to be your hosts. We have planned as well as we could to entertain you and to provide you with a program that will enrich your knowledge of dentistry. That we were chosen to act in this capacity has provided an incentive to measure up to expectations.

The Canadian members of this organization have derived immeasurable benefit from the privilege they have had extended to them in that their associations have been included as constituents of the Conference. This has been exceedingly gratifying and has worked out for the common good.

The ties between Canada and the United States are the intangible bonds of common origin, common language and common institutions; similarity of legal and moral standards and professional thought.

The cordial relationship between Canada and the United States is an outstanding example of the comity of nations. A Canadian citizen is the only person who may enter the United States without a passport and a citizen of the United States is granted the same courtesy upon entering Canada. So that

it is a special privilege I have in welcoming you of another country to my own, and to be the bearer of cordial greetings from all Canadians.

### A New Policy

The splendid records which we inherited from our predecessors in office have been invaluable in the preparation for this meeting and in formulating a new policy of administration. One of the most urgent matters calling for attention was that of a Constitution and By-Laws. The Pacific Coast Dental Conference has been functioning since its inception without a Constitution and, inferentially, without the right to make By-Laws. Such By-Laws as were used in the management of the organization were often susceptible of more than one interpretation and were not always observed. Consequently, a Constitution and new By-Laws have been prepared. These have been considered and approved by the Executive Council and their introduction in the House of Delegates recommended. Should the House of Delegates adopt them without materially altering the fundamental principle upon which they are based, they will provide the Pacific Coast Dental Conference with an instrument it has never had and one of which it has been very much in need.

With respect to the By-Laws, it is essential to increase the registration fee from ten to fifteen dollars in order that the organization shall be self-liquidating from this source of revenue alone and so eliminate from its calculations revenue derived from the sale of space to commercial exhibitors.

Having studied carefully the relationship of the profession of dentistry to business, I am satisfied that the time has arrived when some serious thought must be given to the questionable practice of relying upon the financial co-operation and assistance of commercial concerns, in respect to meetings, if its status as a profession is not to suffer.

Following upon introspection there has come a change in the attitude of the profession towards its relationship to business. One of the chief facts emanating from this self-analysis is the distasteful conviction that the practice of using commercial concerns as sources of revenue is in the nature of a "racket," notwithstanding, it is by many not considered such, due chiefly to the fact that the practice has been a long-established one and has escaped much attention.

Out of this examination has grown the conviction that to share profits, as did the business man, was incongruous and not in keeping with the prescribed function of true professional life.

I am convinced that the advanced status of dentistry demands a severance from this objectionable practice if it is to be independent and dignified and create and maintain a salutary influence upon public thought.

Not all innovations are considered good at the time of their inception. Nevertheless, it is felt that such an attempt should now be made.

I have assumed, with much satisfaction, the large share of responsibility for this new policy of administration, in support of which arguments will be advanced herein which I expect to be sufficiently logical to merit their sympathetic reception and serious consideration.

Section 6 of the Code of Ethics of the American Dental Association states that it is unethical for dentists to pay or accept commissions *in any form or manner* for professional services, *or any other services.*

A dentist who splits fees may not be a member of any recognized dental association, and no organization of dentists may with propriety share profits

with commercial concerns since it amounts to accepting in advance a commission on sales. It has often been claimed that, at considerable cost, a large number of dentists have been assembled at one time and at one place at which time and place manufacturers of dental equipment and supplies display their products to their own advantage, and consequently should be expected to assume a large share of the expense involved. If this claim is based on anything but a false premise, it must be assumed that the Conference is acting as the manufacturers' agent and as such is indirectly a party to a relationship which is not tolerated by the profession in individual members thereof.

### Progress in Dentistry

There are at this time nearly fifty Faculties of Dentistry in Canada and the United States. The first established was in Baltimore in 1840 and the first in Canada, at Toronto in 1875.

The steady progress of dental education during the past seventy years is clearly revealed in the academic and professional training that has obtained from time to time during this period. The requirements in Toronto will serve to illustrate:—

In 1869 one session at a dental school was required. Seven years later this was increased to two years. In 1892 *three* sessions were required, and four years later high school graduation was a prerequisite.

The professional training was, in 1903, increased to four years and in 1921—seventeen years ago—one pre-dental year was added to the academic requirements. Eleven years ago an additional year of liberal Arts training became compulsory.

During the past decade most of the dental schools in Canada and the United States have advanced their admission requirements to include two years in liberal Arts beyond high school training, with the result that recent graduates in dentistry are better equipped to measure up to expectations and to assume a dignified place in professional life.

Those advances responsible for establishing the practice of dentistry as a cultural pursuit have been accomplished chiefly as the result of two influential agencies: that of advanced academic training as a prerequisite to admission to dental schools and the very noticeable increase in the number and extent of research units that have been established.

From the foregoing it may be predicted with some assurance that within another decade a Bachelor of Arts degree, or its equivalent, will be required of all persons as a prerequisite to admission to professional training.

### Academic Training

There exists a superficiality in academic education—a crowded curriculum in which there is so much to be learned, and of which there is so little mastered.

The academic-minded will say that a graduate in dentistry is well educated, but that proves nothing. Only from subsequent events will it be apparent if something is lacking to bring him continued success. He must have a good vocabulary, an understanding of his fellow-men and an acquaintance with the world of affairs.

Other things being equal, the man with the broadest culture has the advantage over the one less equipped. At some sacrifice of scientific training, dental students should acquire a taste for the cultural subjects during their professional training.

Politicians having access to the press and radio are in a position to mould public opinion. If the status and in-

dependence of dentistry as a profession is not to suffer it must develop men equally capable of influencing public thought.

The practice of dentistry can teach a man its technical procedures, but dentistry cannot give him a liberal education or a sound scientific background if he enters it without these.

No doubt, teachers of dentistry are sincere and capable. If they have a restricted outlook it is probably the result of a life of narrow devotion. It is, possibly, their sincere belief that the profession prefers men with exceptional ability in technical procedures whether they are liberally educated or not. Professional training, like *academic* training, serves but to guide the student's footsteps into the path he should follow. That many investigate further is much to their credit. Too many, however, pause when a degree is handed to them and, while a degree in dentistry *may be* a very good walking stick, it is a *very* poor crutch.

A more liberally educated graduate in dentistry would be prepared to better understand any proposed social dental program, at least its personal significance as well as its fundamental economic implications.

Concentration on technical procedures, no doubt, results in the student acquiring mental discipline, but it is at best only partially transferable from one matter to another.

### Research

The profession's greatest need is not for specialization, but for a complete knowledge of the fundamental principles underlying the cause and treatment of dental caries.

This can be brought about by increasing the opportunities for dental research, more particularly in the field of the causative factors in dental disease and of plastic filling materials. Without decided advances in these two fields, dentistry will continue to be occupied chiefly with the result of the destructive action of the former and the discouraging behaviour of the latter. There also exists a great need for the opportunity of developing those competent to enter into research work and creating the means and facilities to bring this about.

Individual members of the profession have, at their own expense, and with little or no encouragement, developed means to overcome many of the more objectionable qualities of materials and have perfected techniques that have been of value beyond all reckoning. However, instead of a check in the destructive ravages of dental caries there is, if anything, an even greater need for more and better dentistry and a more reliable means of combating its incidence.

It is within the last few years that dentistry has found its opportunities extended and its work affected by the encouraging results of research and the application of methods which are changing a practical procedure into an applied science. Difficulties have been encountered, but have been overcome, and, if experiment in research is inevitable, it is as inevitably productive of progress.

The exigencies of the office I hold and the self-imposed attention to details have suggested to me the necessity for the general remarks made in this address, intended to stimulate, in my audience, a consciousness of the matters discussed therein. If I have been successful, it will have served its purpose.

*(Sgd.)* W. J. Lea.

*925 W. Georgia St., Vancouver, B.C.*

# *The Priceless Ingredient* *

by W. A. MOLINE, D.M.D., Spokane, Washington.

THE success of every business is due to THE or A personality in that business. All the large businesses are built around the personality of one or a few men.

Your practice is built by YOU! The success you enjoy is determined by YOU! There is no substitute for *YOU* in your business. But just as the success in your business is due to you, just as your practice reflects your personality, just so does the collective success of the profession of dentistry depend on its collective personality.

If we are to assume our place in the scheme of society as a unit—as a definite, unified branch of public health service—we MUST adopt a definite program of public relations that will establish the personality of dentistry. The public is waiting for dentistry to do just that thing. The public is now in a receptive mood. The next move is up to the dentist.

The move I suggest today is not the remedy for all ills, nor is it the golden road to success. It will be merely a link in the chain to success. To date it can be listed as the—missing link!

While business has awakened and acted on the need for better public relations, the professions, dentistry included, have as yet only moved sluggishly in the right direction. Why is this so?

It will be well to ask a few searching questions to give ourselves a lead. Let us see if we can answer them satisfactorily and honestly.

Are we aware of the importance of winning the confidence of the people?

Are we, as a group, making a definite bid for public favour and acceptance?

Are we telling the public of our motives and aims in serving them and thereby establishing a feeling of good-will?

You can readily see that to answer these questions we will necessarily have to cover a wide horizon in our discussion. That a big job lies ahead is apparent.

The first step in any dental public relations program is the education of the dentists themselves. We must awaken a consciousness in the minds of the dentists for the need of a definite action, designed to win the confidence, good-will, sympathy, and understanding of the public toward us. We must come down out of the clouds of super-ethicalism and come back to earth. We must realize that we are dealing with people—human beings. Not only is it necessary to give the people an understanding of ourselves, but it is necessary also that we receive an understanding of them. To understand and to know people is to understand most of the world's ills. The only way we can ever expect to win them to us is to treat them as we would like to be treated—not only individually, but also collectively—in our public-profession relationship.

We must take a look at ourselves—analyze ourselves. We must take a look at the public—try to analyze it. We must try to see ourselves as others see us. We must begin our self-analysis on a very general and broad plane.

You have a home. The character of

* Read before the Pacific Coast Dental Conference, Vancouver, British Columbia, July 8, 1938.

your home is not determined by the house or contents of your house. The character of your home is built around the spirit of YOU and YOUR FAMILY. We call that spirit personality. Dentistry is your professional and business home. There is a material side to dentistry which we call technique or operative dentistry, but just as your house does not make your home, neither does technique give character to dentistry. Dentistry is characterized by the men engaged in its practice. The opinion the public has of us is not due to our technique but to US — our collective personality.

*The* character of dentistry is not built upon how we treat a tooth; *the character of dentistry is built upon how we treat the people.*

Dentistry's previous inaction in public relations work is due largely to a misunderstanding of many well-meaning dentists who have distorted ideas as to what constitutes public relations work. It is necessary to give you a definition of public relations so that we will all know what we are talking about and we will all have the same picture in our mind. Public relations is the conscious or subconscious reaction of the public toward our profession . . . and, is perpetually existent. Public relations work in any field of activity involves education. Public relations work in dentistry involves education, and is sanctioned by the code of ethics. Many men have read the code of ethics where it says that dentists shall not advertise, but, they have overlooked the fact that it doesn't say that dentistry shall not advertise. They have become obsessed with the idea that all public relations work is unethical. It is all right to observe the code of ethics in letter and in SPIRIT. I heartily endorse and observe it myself. But when the observance of the letter obstructs the action of the spirit, and causes the profession to lean over backwards, it is high time that we should go into a huddle with ourselves and find out what is wrong.

It is interesting to note a most noteworthy example of notoriety that the healing professions ever received at the hands of the press only a couple of weeks ago. Imagine — you can — imagine the psychological effect produced on the thinking brains of the country when they read it. Here we read in an AP dispatch of June 14, from the meeting of the AMA in San Francisco as follows: "Proposals to revise and amplify the medical ethics in the light of changing conditions—went before the AMA today." I'll repeat:

Revise medical ethics!

Is the ADA headed in that direction, too?

Has it come to changing our ethics?

Gentlemen of dentistry, it isn't the code of ethics that needs to be changed to conform to changing conditions. What is needed is to change the members and conditions to conform to the code of ethics as it stands. We need a new interpretation of the code, not a new code! There are as many interpretations of the code as there are men here today. What we need to do is center our thoughts on a central goal in dentistry and the code will take care of itself.

Let us examine some of the things that are appearing in public print that create psychological hazards in the minds of the people. Here we have a report from the meeting of the AMA. This time it is a dispatch reporting the events of the last day. Under the date line of June 18 we read as follows: "The AMA acknowledged that some plan must be worked out to provide treatment for the medically indigent but refused to budge from its opposition to any form of 'socialized medicine'."

"Refused to budge—"

How long will it be before the health

W. A. MOLINE

professions realize that the satisfactory remedy for social health problems must come from within the ranks of the professions and not from the outside or the politicians? Again imagine—the psychological effect upon the public mind when the people read that "they refused to budge." Remember now, we are trying to see this situation as the people see it, and not through our own eyes.

Still another glaring mental hazard was thrown up to the public in the form of an article appearing in the June issue of the American Magazine, under the title "Diagnosing the Doctors." Perhaps you have read it. The very first sentence that greets us is this: "It is becoming increasingly apparent to the public at large that there is something radically wrong with the medical set-up in this country." Imagine again the psychological effect on the millions of people reading that article! The first sentence that they read says something is wrong with us! And men, if we sit by and don't do something about it and people read that often enough, it won't be long before they will KNOW that there is something wrong with us. If we are to survive as an entity in the present scheme of things we had better keep a jump ahead of the public and keep them coming to us for treatment instead of having the government drive us to them with treatment.

If our public relations policy is to become effective and efficient, we must be on the alert constantly as to the whereabout of the public mind. Our program can be so constructed that we can even determine beforehand the channels into which the public trend of thought will go, but of course that will take time. We must first establish a strong prestige. It becomes more apparent every day that dentistry's collective personality must be developed to win favour in public opinion.

Let us turn now to the blackboard for a schematic diagram of conditions as they are. Perhaps we can better visualize by diagram the essential parts of dental public relations work.

Here is DENTISTRY the profession.

It is the *youngest* of the great professions.

It is a *unit* of public health service.

It is a *noble* calling.

*You and I are members* of this great profession.

Its destiny is in our hands.

The past ten years have shown the greatest progress the world has ever known in every line of activity, dentistry included. Dentistry's progress has been technical rather than economic. In the past dentistry has totally ignored the necessity of aiming at a definite goal in public relations. Yet—public relations, public estimation, public opinion of the profession is perpetually existent, regardless of our efforts or lack of efforts to influence it. Many of our efforts at educating the public have been in vain and worthless simply because we have not observed some of the fundamental principles of human nature. Much of our work has fallen on unhearing ears, and has been seen by unseeing eyes. What we must do is adopt a goal, and then direct our aim at that goal.

That the realization for this need is gradually growing among the dentists is reflected occasionally in the dental press. You may have read the editorial in the May 1938 issue of Nutrition and Dental Health in which the editor writes as follows: "We can do no greater service in the interest of better dental health than to provide the public with the necessary knowledge of dental health subjects. —In the past few years members of the profession have taken a greater interest in this work *but it is still far from a comprehensive program of dental health education.*"

A musician friend of mine recently said that a *musician cannot have a true perspective of his art if he does not know intimately all the other arts.* How true this becomes when applied to dentistry! We must know and correlate all phases of professional and business activity if we are to efficiently serve the public.

Let us first of all consider some of the general principles of business before we make any business applications to dentistry. Unquestionably *dentistry is a business.* Aside from relieving suffering humanity, we are in dentistry to make a living. Money or some medium of exchange is involved in every dental transaction. People must provide for dental care in their budgets. People see us as a business and in that light we must take a look at ourselves.

Let us analyze the situation. Business has three all-important sides. 1. Production; 2. Distribution; 3. Credit or financial set-up.

Now dentistry, too, has three all-important sides. (Fig. 1.)

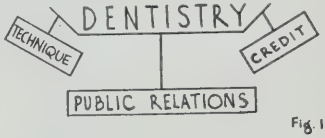


Fig. 1

*First,* is the production or operative, or let us say the technical side.

*Second,* is the distribution or in the case of dentistry, better called the public relations side.

*Third,* is the financial structure or credit side of our business.

### Technique

Obviously, most of our time is consumed in absorbing the mysteries of the production side of dentistry. *Volumes* have been written about technique. Practically all conventions are devoted to it. Countless millions of words have been uttered expounding the theories developing technique. *Needless to say, we have worked the production angle of dentistry to the point now where the profession is far ahead of the public demand, or of their ability to pay for that advanced service.*

The third or credit side is outside the realm of our discussion today, but it is nevertheless a very interesting and important phase of our professional activity.

### Public Relations

It is this second or public relations side that interests us today. This is a phase of activity that every profession and virtually every type of business has neglected until recently. As yet dentistry has not viewed it in true perspective or from the proper angles.

Here is a statement that appeared recently in a trade paper which will bring you a step closer to the picture that I am trying to paint for you:—"Business tries to be 100% perfect in its impersonal activities, but accepts a 25% standard in its methods of handling human beings. Millions of dollars are spent by the automotive industry to keep its bookkeeping system up to date, but hardly a penny to understand and modernize the human machinery upon which all other aspects of its operation depend for success." Let us substitute a little dentistry for business in that and hear how it sounds. Remember, I am speaking of dentistry, and not dentists. "Dentistry tries to be 100% perfect in its technique, but accepts a 25% standard in its methods of handling human beings. Millions of dollars and hours are spent to improve its technique but hardly a penny to understand or build an understanding in the human beings upon which all other aspects of its operations depend for success."

*It doesn't sound very different, does it? And don't you think it is true?*

Let us proceed with our diagram. (Fig. 2.)

One of the two principle branches of public relations is that primary source of public opinion, the efforts of the individual dentist. In our analysis we may ask the question, upon what bases do people form their opinion of dentistry as a profession? Dentistry means to the average person only what their contact with dentistry has been.

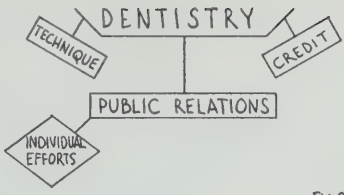


Fig. 2

If you are the only dentist to whom a certain person has gone for dental work, then that person's opinion of dentistry is based almost entirely upon the impression which you have made upon him. If that person has had contact with two or three dentists his opinion is based upon a broader experience. If some of that experience has been unpleasant, *dentistry as a profession is the loser,* as well as the individual dentist. The importance of the individual practitioner, *YOU,* in the general scheme of public-profession relationship, immediately becomes apparent. It becomes imperative that we adopt a definite central program so that the *efforts* of the individual dentists are *in the same direction.* Individual efforts can be classified under two sub-headings; those performed *IN* the office and those achieved *OUTSIDE* the office. (Fig. 3.)

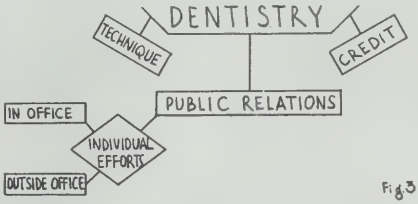


Fig. 3

Have you ever stopped to consider what any patient sitting in your dental chair is thinking about? Have you ever wondered what is in his mind when you are rolling along with your sales talk or your educational spiel? Perhaps you have, probably you haven't. When a

patient comes to your office for treatment he comes for the relief of pain or the correction of a dental disorder. There are two things uppermost in that patient's mind, PAIN—will it hurt? . . . and pocketbook—how much will it cost?

With these things in his mind the patient cannot appreciate educational efforts in the office. The *dentist must educate* the patient when the patient is in a more receptive mood, or when the conditions are more favourable. We need, therefore, another medium to reach the patient, both *BEFORE and AFTER* his contact with dentistry. By educating the patients in your office you are in reality selling *yourself primarily,* and *dentistry secondarily.* To promote dentistry, self should be forgotten and the program should come from the group as a whole, one large national program, created not by dentists, *but by dentistry.*

Now some of the public relations efforts by individual dentists OUTSIDE the office are: talks to civic groups, and at schools, which are conscious efforts to bring about better public relations.

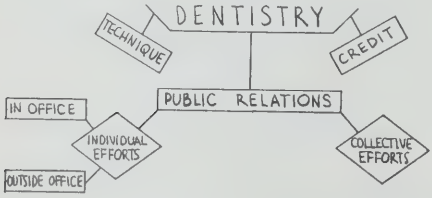


Fig. 4

On the other side of the public relations picture we have the efforts put forth by our dental organizations, *our collective efforts.* (Fig. 4.) We will pause a moment to see what has been done by our associations to bring an understanding of the professions' problems to the people. There is within the American Dental Association a bureau of public relations which has for its purpose the preparation of dental educational material to be released to the local dental societies. It is supposed to be their task to give the public the story of dentistry. The bureau has spent much time, money, and effort in obtaining a wealth of very valuable and interesting material. The men responsible to this bureau are to be commended for their efforts. But obviously, the method of distribution is weak and ineffective because the public is not getting it. The ADA is depending on local societies to do a work that they are *neither trained nor equipped* to do. To be effective, dental education must reach all the people. All the people must receive the same picture of dentistry if we are to succeed in establishing a public relations policy. This can be done only through a national program.

Another collective effort to bring better dental service to the public is the attempt to secure legislation "for" or "against". This is a true American panacea for all ills—There ought to be a law! This is strictly defensive! Place yourself in the public's position. A bill is presented to the legislature by an organized group. Immediately the people wonder—"Why the bill now?" "Who will receive the benefits?" The question arises in their minds "How does it affect us?" The very fact that there is a question in their minds shows that they question the motive behind it. Dentistry is on the defensive!

Other collective efforts which produce public opinion are:

Local news items.

Open clinics or exhibits for the public.

Publicity given dentistry at conventions.

All of these efforts mentioned so far are extremely limited in scope, spasmodic in execution, and without a clear cut objective. The picture the public receives of dentistry through these efforts

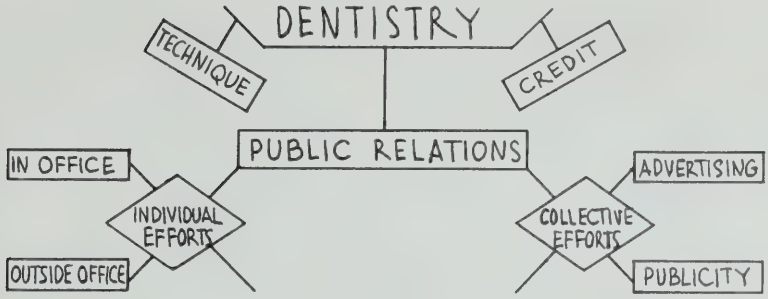

Fig. 5

will be necessarily vague and without design.

There are two phases of collective efforts which as yet have not been discussed. Neither has the profession made use of these two powerful forces. They are: advertising and publicity. (Fig. 5.)

Before going any further it will be well to define these two terms so that we will not be confused or misunderstood.

Advertising is to notify, announce publicly, or call public attention to, through the medium of paid space, time or material.

Publicity is information designed to advance the interests of a place, person, or cause, usually appearing in public print or heard over the air. Publicity is distinguished from advertising in that it is free, and is sought without expense to the beneficiary. To avoid confusion it may be well to use the terms free and paid when speaking of either publicity or advertising.

One of the conditions that has hindered the establishment of a definite public relations policy, is the attitude of dentists toward advertising. Dentists, not being advertising men, do not fully appreciate the power of advertising. No doubt the reason for an adverse attitude toward advertising has been due to the commercial aspects. Herein lies the need for elucidation. Advertising consists of two types: commercial and service. Commercial advertising is typified by the dollar sign—something to sell now—merchandise. Service advertising has for its purpose the building of goodwill toward a product, industry, community, or profession, through education or entertainment. Our whole life is influenced by advertising. Everything we do, everything we eat, everything we wear, everywhere we go, in fact, we cannot look about without seeing the results and effects of advertising. America is educated by advertising!

It was interesting to see in a recent newspaper item what three presidents of the United States have to say about advertising: President Roosevelt declares: "High standards have made good advertising an economic and social force of vital importance." While in office Herbert Hoover asserted: "Advertising plays a fundamental part in the life of our modern world." Calvin Coolidge maintained: "It is essential to make good merchandise. It is just as essential *to create a desire for it. That is advertising.*" Is not our dental service of sufficient importance to humanity to tell the public about it? Is it not of sufficient importance to create a desire, on their part, for better oral health? Or, are we not sufficiently appreciative of their patronage to at least give them some entertainment or tell them that we appreciate their patronage?

Concerning publicity, it will be possible by adopting a definite public relations policy, to control to some extent the type of material which will be available for public consumption. When new products are available, when new discoveries are found, when new treatments are perfected, they will be given to the public with the sanction of, and under the direction of, our national program. If we get busy there need be no repetition of blatant announcements of new discoveries, with the subsequent disillusionment of the public. Following one such announcement recently, the public received a terrific let-down when neither the product nor the profession were equal to the publicity. The profession was the goat!

Now we come to one factor which is, and has been, the greatest influence in dental public relations to date and yet should not be so. Overshadowing all other efforts we have the people receiving the bulk of their dental education from the widespread advertising of commercial products, such as toothbrushes, mouthwashes, and dentifrices and the advertising of advertising dentists.

This great wave of advertising of commercial products has permeated our whole public relations structure. (Fig. 6.) It has grown to such proportions in our dental picture that the people would rather believe the commercial advertisements than they would the dentist, who is supposed to be the final authority. The commercial interests have grown so bold as to even tell us what drugs we should prescribe, what treatment we should give, and even what equipment we should place in our offices. *When is organized dentistry going to assume control of dentistry?* Do you ever have patients who ask you if they are one of the four out of every five who have it? Do you have patients ask you what your treatment is for pink tooth-brush? Do you have patients tell you they have to use No. 2 paste because their teeth are hard to whiten? And, Doctor, do you use paste or powder? And to top off this barrage of commercial ballyhoo, we have the blatant and deceptive voice of the advertising dentist. Now with the picture as it stands you have just about the complete source of the public's opinion of us.

Remember that the advertising and publicity under collective efforts is as yet practically non-existent. The efforts and the influence of the individual dentist, together with advertising of commercial products is the source of the people's knowledge of us—the dental profession. With that background we expect the public to fall in line with our ideas of

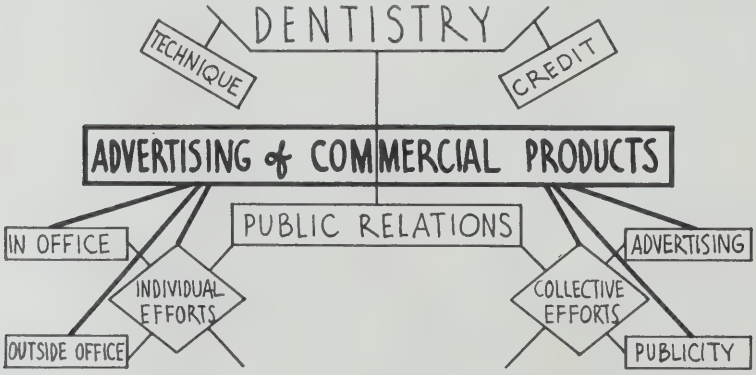

Fig. 6

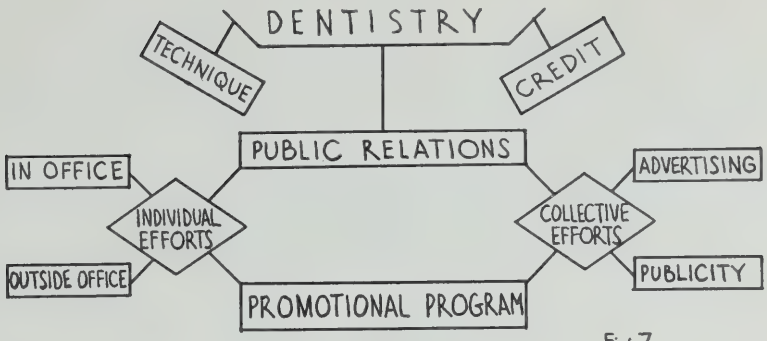


Fig. 7

preventive dentistry. With such information we expect the people to accept our fee schedules. With such superficial and often weird instruction we expect the people to come to our offices clamouring for class A dental work! Do you see the weaknesses and fallacies of our present set-up? Our picture is not yet complete. There are a couple of loose ends that need to be tied together. We need to complete the symmetry of our structure.

The thing that has been lacking is the absence of a uniting link. This uniting link which is vital to life cycle of our public relations work is a *Promotional Program.* (Fig. 7.) Such a program is essential to the successful tie-up between the efforts of the individual dentist and the collective efforts of the associations. We need programs of this type to energize every dentist with the desire to do his part in public educational work. This program should instruct all dentists to give the public the same story of dentistry.

A program such as this will create unity within our dental associations. Dentists will be proud to belong to an organization which is progressive. Through this program it will be possible to create friendliness toward the profession on the part of the public. Through this the public will be more sympathetic and less apt to fall in line with ideas of socialized and advertising dentistry. Through such a program we will be able to build a desire on the part of the public for better dentistry. Such a program will become the vehicle of meeting temporary and permanent problems as they present themselves; such as to combat the inroads of socialized dentistry; to educate the public on pending public health measures in legislatures and congress.

Furthermore, an intelligent promotional program can be useful in paving the way for the dentists when the patient presents himself, e.g. to cite two cases from the commercial field. Both the Fuller Brush Co. and the Realsilk Hosiery Mills advertise extensively to prepare the consumer for a visit from their salesmen. Remember there is a lot of difference between a salesman making a "cold call" and the one armed with an introduction. How much easier it is to meet the patient who has been referred by a friend than to try to sell to the one who has just wandered in? Clever public relations work can become your friend by preparing the people for their visit to your office. It is high time that we supplement our professional efforts with an aggressive program designed to win the favour of public opinion. We must work as a unit and in presenting a solid

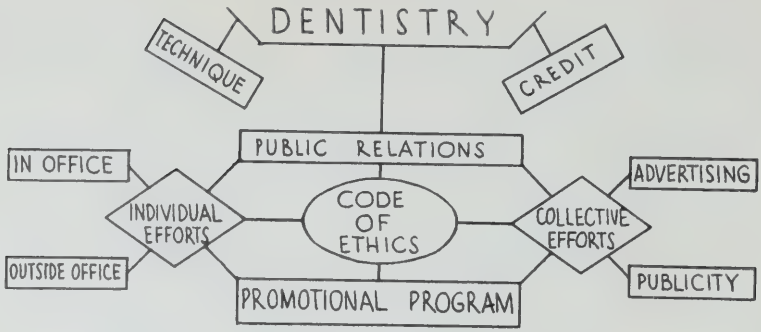


Fig. 8

front to the public we will be better able to serve them and ourselves.

It is not necessary to give you the mechanics of such a program at this time, but let me emphasize that to be a success it must be on a national scale and must use the highest type of accepted media. As to cost, my investigation in authoritative channels reveals that the cost per member of the ADA would be surprisingly low, just a few dollars per month. The exact figure would, of course, vary with the magnitude of the program.

You cannot afford to stand at your chair and educate the people one at a time for a few dollars per month, regardless of your fee schedule, and you still would not be reaching 75% of the people. Theodore Roosevelt said: "Every man owes part of his time and money to the development of the industry in which he is engaged." No public relations program benefits can reflect to the personal advantage of any one individual, but is to be enjoyed by the profession as a whole. As the profession benefits, we benefit individually. Local efforts at education will be ineffective regardless of method unless there is one large central program to which to adhere. This big national program should be the starting point and clearing house for all local effort. Such a program will have many possibilities, and ramifications can extend into many channels of the economic and social order.

There remains but one final addition to make our picture complete. It will add that final touch which is essential to maintaining the highest professional standards. There need be no conflict. There will be no conflict. The code of ethics stands as the center or hub around which all public relations work will revolve. (Fig. 8.) We don't need a new code of ethics! All we need is a new program! *Dentistry's priceless ingredient is its character. The great need of dentistry today is to make its character KNOWN*—both to the public at large and to its own members. Until this is done our great job of satisfying human needs cannot be successfully performed. We have inherited our technique. We must strive to carry on and improve it. A new problem of a new day, however, demands that we leave, as our legacy to future dentistry, a better public relationship for dentistry!

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*I still stick to my old proposal that everybody should be called on every five years or so to justify their existence. There are many people in the world who ought to be liquidated.—G. Bernard Shaw, in Medley.*

# Practice Management

The Journal Committee has found an increasing demand for a Section in the Journal on "Practice Management". You are invited to send your suggestions on office management and practice, or concise articles on some phase of this subject to the "Editorial Office," 314 Somerset Building, Winnipeg.

## *Object: To Collect*

by HOWARD STEPHENSON

(Condensed from Medical Economics, April 1938)

*Some good, sound collection hints you can't afford to miss—Written for the physician but very applicable to the dentist.—Editor.*

ADVERTISEMENTS are supposed to *sell.* They're not supposed to be merely smart or pretty or funny.

Likewise, the object of your collection efforts is to *collect;* not simply to shame patients, or to threaten them, or to tell them how much hard work you do.

The following suggestions, if observed, will bring tangible results:—

1. If a patient so neglects his account that it is necessary to send him a reminder, rest assured that *collection letters are no strangers to him.* This does not mean that you can send him a hard-boiled "dun". But it does mean that he is familiar with the stock "approaches" of credit managers and that you may do well to avoid them.

2. The important point to get over in your first collection letter to a given patient is that *it is a form letter.* This implies that similar letters go to your other patients. Thus the letter is robbed of offense.

3. It is recommended that one month after the form letter has gone out, if it brought no result, an exact duplicate of the *same letter* be sent. This re-emphasizes that your calls for payment are routine matters. It enables the patient to "save face" by paying up now.

4. The physician who carries on a collection campaign against one patient over a period of more than six months has merely wasted his time and lost standing with that patient.

5. A practical schedule: First month, send a simple statement. Second month, send a simple statement, with a notation "Past due." Third month, try the form letter mentioned above. Fourth month, try repetition of the form letter. Fifth month, *for the first time,* and also the last, send a personal note, but on a strictly business basis. Sixth month, give notification that, *as a matter of routine,* you have placed the account with a collection agency.

PITFALLS TO BEWARE OF:

*Do not write* "Apparently you have overlooked, etc." If you sent two monthly bills, they weren't overlooked. This kind of insincere cliché may work for the commercial credit manager; it is likely to be bad technique for the physician.

*Do not write* "If my services were unsatisfactory or you have any cause for complaint, I should like to hear from

you." This not only puts the physician on the level of the business drummer but is *legally dangerous.*

*Do not write* "The investment in time and money which went into my medical education, etc."

*Do not write* "Unless payment is received, I shall turn this account over to an attorney." Instead, refer to this action as a *fait accompli.* Remember that the physician must at all times retain his position of *seniority* in relation to the patient. The tradesman can afford to cajole or threaten, as circumstances warrant. The physician can seldom afford either.

Bearing in mind the restrictions and limitations which the nature of his practice impose on the physician, the following three letters are suggested as the basis for the six months' collection schedule referred to:

### First Letter

In order to provide medical care for all my patients with a maximum of efficiency, I endeavour to spend as little time as possible on the routine matter of collecting bills.

May I solicit your co-operation? Your account amounting to $55 is now three months past due. Statements have been sent you the first of each month.

I shall greatly appreciate it if you will settle this account before the tenth. If more convenient to you, payment may be extended over a reasonable period. But I must respectfully ask some payment immediately.

* * *

This is the letter which is to be repeated without change the following month. If there is still no response, send the second letter:

### Second Letter

Dear Mr. Lewis:

I do not have to send out many personal appeals to my patients to pay their accounts. That is because I try to have an understanding with each one that bills are to be paid within a reasonable time.

Now I want to ask you to join with the majority of my patients in keeping our account on a mutually agreeable basis.

I shall appreciate your check for $55 this month. My income is derived from my patients, to whom I endeavour to give the best service of which I am capable.

Please let me hear from you by return mail.

* * *

Suppose that doesn't work either. Still no pay. Still no word. This is the crisis in which the average physician falters. Bear in mind that any patient who has caused you to write again and again, without bothering to reply, is either a dead-beat or so involved in financial difficulties that he is not likely to extricate himself by his own efforts. Bear in mind, also, that no further personal appeal you could make would probably have any effect.

Take the final, logical step, therefore. Notify him that you *have* placed the account in the hands of a collection agency or attorney. It is the common-experience that unless you are dealing with a dead-beat, this final letter will turn the trick and the agency or lawyer will not have to go to work.

### Third Letter

Dear Mr. Lewis:

Regretfully I must inform you that your account, which is six months past due and which amounts to $55, has been turned over to a collection agency, with authority to take necessary legal steps to effect settlement.

*Frequently professional people say to me, look over my office and criticize it. Of course, I never go into people's daytime homes to criticize them, so I don't do that. But shall I tell each of you how you may criticize your own office? When you go home tonight, merely say to your wife, if she is awake—I would not advise you to awaken her to tell her this if she is slumbering—"Dear, I am making some changes in the office. I have decided to bring home my reception room furniture, drapes and fixtures, and we are going to take our living-room furniture down there." If she does not protest and object, you do not have to do a thing. But if she rouses up enough to say, "No, you don't," then I think you have the answer. You had better do something.*

*Our success depends on whether our patients like us and our service, and send other people to us on like missions. Why is it then that a combined force does not start operating in our offices to say to each patient, you are so important to me that I will do my very utmost to please you?*

*—Louis Hill, D.D.S., Los Angeles, Cal., in N. Y. Jour. of D.*

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*One class of readers may be compared to an hour-glass, their reading being as the sand; it runs in and runs out, and leaves not a vestige behind. A second class resembles a sponge, which imbibes everything, and returns it in nearly the same state, only a little dirtier. A third class is like a jelly-bag, which allows all that is pure to pass away, and retains only the refuse and dregs. The fourth class may be compared to the slave of Golconda, who, casting aside all that is worthless, preserves only the pure gems.—Coleridge.*

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## *Conventions*

MIDWINTER MEETING OF CHICAGO DENTAL SOCIETY, FEBRUARY 13-16, 1939.

MINNESOTA STATE DENTAL CONVENTION, MINNEAPOLIS, FEBRUARY 21-23, 1939.

NORTH PACIFIC ALUMNI MEETING, PORTLAND, OREGON, FEBRUARY 23-25, 1939.

SEVENTY-FIRST ANNUAL MEETING OF THE DENTAL SOCIETY OF THE STATE OF NEW YORK, HOTEL PENNSYLVANIA, NEW YORK CITY, MAY 9-12, 1939.

WESTERN CANADA DENTAL SOCIETY, WINNIPEG, MAY 29-31, 1939.

SEVENTY-SECOND ANNUAL CONVENTION OF THE ONTARIO DENTAL ASSOCIATION, ROYAL YORK HOTEL, TORONTO, ONTARIO, JUNE 5-7, 1939.

Dentists from the United States and from parts of Canada outside of Ontario will be welcomed.

FIFTH CONVENTION OF THE FRENCH SPEAKING DENTISTS OF NORTH AMERICA, MOUNT ROYAL HOTEL, MONTREAL, JUNE 8-10, 1939.

ANNUAL MEETING OF THE NEW BRUNSWICK DENTAL SOCIETY, MONCTON, PROBABLY IN JULY.

AMERICAN DENTAL SOCIETY OF EUROPE, LAUSANNE, SWITZERLAND, AUGUST 5-9, 1939.

K. C. Campbell, Secretary, 88 Portland Place, London W.1., England.

AUSTRALIAN DENTAL CONGRESS, MELBOURNE, AUGUST 21-26, 1939.

AMERICAN DENTAL ASSOCIATION, MILWAUKEE, WISCONSIN, JULY 17-21, 1939.

FIFTEENTH ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, MONTREAL, SEPTEMBER 27-29, 1939.

# Problems in Practice

Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

**PROBLEM FROM ALBERTA:**

Sometimes I have difficulty in securing complete anaesthesia following a mandibular injection of 2 per cent novocaine solution, used for extracting an impacted third molar.

In these cases I have felt that the technique was correct. Even a second injection does not always produce results.

I would appreciate an expression of opinion as to whether the anaesthetic ever reached the nerves involved, or whether it is necessary in such cases to use a stronger solution than 2 per cent. Are there any cases which cannot be anaesthetized by a local anaesthetic, granting that the tissues are in normal condition and not inflamed?—*Dr. X.*

**REPLY FROM UNITED STATES:**

Injections for blocking branches of the fifth cranial nerve are made by depositing the solution around the nerve trunk, (perineural method); no attempt is made to pierce the nerve sheath and deposit the solution into the nerve trunk, (endoneural method). One of the greatest causes of technique failure is that the solution is not injected sufficiently near the nerve trunk for it to infiltrate the surrounding tissues and epineurium, and to completely anaesthetize the central nerve fibres.

The result following such an injection is unsatisfactory and requires a second injection, which of course, must be carefully made or anaesthesia may not be complete. In some cases following the second injection the additional solution will cause a more complete infiltration of the nerve trunk, and profound anaesthesia, even though the solution is not deposited in the correct location.

It is not necessary to use stronger than a two per cent solution of procaine (novocaine) with a suitable vaso-constrictor in proper concentration to block any branches of the fifth nerve.

There are a few cases reported in which patients have had certain idiosyncrasies which have prevented the successful use of a local anaesthetic even though the tissues in the area involved were in a normal condition. These cases, however, are rare and in the majority of instances where failure has occurred it is either due to the solution injected or to the manner of injection.—*J. Holden Beckwith, Miami, Florida, President, American Association of Oral Surgeons and Exodontists.*

**REPLY FROM UNITED STATES:**

In very rare cases we have found it necessary to use a four per cent solution of procaine in order to get the required anaesthesia. It should be taken into consideration that a more concentrated solution penetrates deeper into the tissues. Nothing is gained by increasing the volume. It is our belief that when anaesthesia has not been complete, the inner nerve fibres have not been reached. We do not have any cases wherein we fail to produce the desired results if the tissues are in normal condition.—*Boyd S. Gardner, Section on Dental Surgery, Mayo Clinic, Rochester, Minn.*

**REPLY FROM QUEBEC:**

On occasion I too have experienced the results spoken of, and I have always believed it due to my failure to deposit the anaesthetic solution in the proper place. I have found that, upon injecting a second time, if I can actually touch the nerve trunk with my needle, the anaesthesia takes place almost instantly. If the second injection is no nearer the nerve trunk than the first, the patient sometimes reports anaesthesia developing hours afterwards.

There is another type of case, however, for which one should be on the alert; the patient who denies symptoms of anaesthesia, denies the numbed lip and tongue, and yet, removal of the tooth is painless. Subterfuge must be restored to in these cases in order to discover if anaesthesia is present.

It is difficult to get complete anaesthesia of a nerve trunk which has been irritated for sometime; symptoms of anaesthesia may be pronounced, yet pain may be experienced upon removal of the tooth.—*F. W. Saunders, Montreal.*

**REPLY FROM ONTARIO:**

I would say that first, the most probable cause of failure is that the needle is carried too far posterially; second, insufficient delay following the injection; third, in cases where there is acute inflammation, the anaesthesia is relatively less satisfactory. I would not recommend the use of more than a two per cent solution, and it has been my experience that the solution prepared by the commercial houses, in ampoules, is more satisfactory. I know that there are some cases which cannot be satisfactorily anaesthetized, the reason for which I am unable to state, except as above.—*Fulton Risdon, Toronto.*

**REPLY FROM ONTARIO:**

In this problem, there are three factors to be considered. 1. The operator. 2. The patient. 3. The solution. The operator, by employing an improper technique, will account for about 75% of our failures. Varying degrees of susceptibility of our patients to local anaesthetics will account for varying degrees of the success we secure in the majority of the other 25%. I have had knowledge of a number of cases where lack of satisfactory anaesthesia could be explained on no other grounds than that of non-susceptibility. Last week I had a patient to whom I gave three inferior dental nerve blocking injections, each time trying to improve on the former, and as well I gave a generous infiltration, without securing sufficient anaesthesia. Of course, we are all familiar with the difficulty of producing anaesthesia where any acute conditions are present. In these difficult cases, the use of a 4% novocain solution is much more effective. An inferior local anaesthetic solution may be to blame, in a very small percentage of cases.—*Edgar W. Paul, Toronto.*

**REPLY FROM BRITISH COLUMBIA:**

In my opinion, there are three explanations for lack of success in making a mandibular injection.

1. A misplaced nerve. In at least four instances, in our office this was the only reason we could find.

2. A misplaced injection, caused by using the recognized technique of paralleling the needle to the occlusal surface of the lower teeth and not recognizing either the centre of the depression in the exterior oblique line in the ascending ramus, or allowing for the elongation of the remaining lower teeth.

3. According to an article appearing in Modern Dentistry, I think, April, 1938, there is in some cases an additional nerve supply that leaves the lower border of the mandible in the second bicuspid region. An injection of a few drops of novocaine in this area will control this.

So far I have not found it necessary to increase the percentage of novocaine to produce anaesthesia.—*Archie Johnson, Vancouver.*

**REPLY FROM MANITOBA:**

This condition is clinically presented to every exodontist and oral surgeon frequently, either following attempted removal of teeth or in filling teeth or other painful dental procedure. Very often the patient happens to be a dentist practising in the same building. My experience clinically has always confirmed my belief that the operator inserted the needle too low—below the opening in the ramus where the nerve enters.

There are a few clinical reasons for so doing, such as, anatomical differences in different individuals. Sometimes the angle of outward sloping of the ramus is not considered, in which case the needle would be low and inserted too far lingually into the superior constrictor muscle of the pharynx, or the inward sloping of the ramus will prevent insertion, in which case the needle will be too low and not deep enough. Withdraw the needle and feel it slide back loosely—using index finger of left hand as the eye, determining the retromolar triangle and going high enough so as not to strike the lingulae or piece of bone over the opening where the nerve enters.

Differences in shapes of rami cause faulty technique—there is no standardized technique for all cases.—*E. Roy Bier, Winnipeg.*

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*The present attempt on the part of the Government to bring about a greater awareness of the benefits to be gained from physical and dietary care is praiseworthy. It is obviously desirable, that in order to obtain a fitter nation, the people shall create for themselves regular habits of exercise, fresh-air occupations, and wise methods of eating. But, in its attempt to approach this problem on the grand scale, it would appear that the Government has overlooked, purposely or otherwise, a matter of vital importance to the success of its endeavour—that is, teeth. It would seem of little use asking a man to touch his toes twenty times every night in order to make his biceps bigger, while poisons from his septic teeth are pouring into those muscles. Surely it is often a case of forceps before biceps. Neither does it seem to be placing the horse in correct relation to the cart to instruct people in their eating when millions of them will be swallowing the right food after masticating it with the wrong teeth. Vitamins added to oral sepsis cannot be effective in body building. A correctly balanced diet must certainly be unbalanced when it is taken via a mouth that is a cavern of sepsis. And that is the condition in a vast proportion of our people. It would be wiser to attend to the mouths, and leave the stomachs and muscles to benefit from such a regimen of physical training to be employed later.*

*—Edward Samson, L.D.S.R.C.S. Eng., F.C.S. in Dental Magazine and Oral Topics, November, 1937.*

# The Forum

## • DENTAL CARIES IN SOUTH AFRICA

Abstracted by J. STANLEY BAGNALL, D.D.S., Halifax, N.S.

A SPECIAL supplement to the "South African Journal of Medical Sciences" for May, 1938, is devoted to the report of a study by J. Staz, D.D.S., of the University of the Witwatersrand Dental School, Johannesburg, S.A. It is not likely that this study will get the attention it deserves, on this continent at least, because of the few interested people who will see this publication.

Dr. Staz carried out his investigations on three groups, each consisting of 300 young adults between the ages of 15 and 30. Group 1 was made up of primitive Bantu natives; group 2 of urban Bantu who were living under European conditions as labourers, servants, etc., and group 3 was the European group made up of university students, private patients, etc. No member of the European group was found free from caries, but 30 were caries free in the urban group and 185 in the primitive Bantu group. The average number of cavities was 0.71 in the primitive group, 4.39 in the urban group and 14.97 in the European group. The figures for unerupted third molars are also interesting. In the lower molars these ran 238 for the Europeans, 75 for the urban and 178 for the primitive group. The only explanation offered is that the teeth of the Bantu tend to erupt somewhat earlier than in the European, which was observed also by another study made by Shaw in 1931.

It was noted that the teeth of the native group showed the greatest amount of attrition, the Europeans the least and the urban group took a medium position. This would seem natural when the soft food of the European diet is contrasted with the coarser diet of the native, requiring more mastication. In all groups the heaviest degree of attrition was found associated with the best-formed arches. The number of well-formed arches was 91 in the European, 179 in the urban and 188 in the primitive group, which is what one would expect.

The comparative figures for pits and cavities are interesting, considering the publicity which has been given to this in our literature. In a group of 300 mouths the Europeans showed 1021 pits and 6765 cavities, the urban group 1169 pits and 1398 cavities and the primitive group 2012 pits and 220 cavities.

Dr. Staz paid considerable attention to the saliva, and his report shows the difficulty of making any correlation between the incidence of caries and the pH of the saliva, which workers in this field experience.

The European group makes the best showing in the case of gingivitis where 176 out of the 300 were free from gingivitis, while only 43 in the urban group and 85 in the primitive group were free from it. In both Bantu groups the greatest average number of cavities was found to be associated in the same mouths with the heaviest deposits of calculus.

A careful analysis of the enamel and dentine of the teeth was made in all groups and it was found that the organic content of the enamel and calcium content of the dentine appeared to be the same in the primitive Bantu as in other races; nor could any evidence be found that the primitive Bantu enamel

was more resistant to decalcifying processes than the enamel of the European.

The histological structure of the primitive Bantu enamel is identical with that of European enamel. Interglobular spaces occur with the same frequency in the Bantu as in the European. Histological evidence shows the same degree of calcification in both groups and its minute structure, both in the normal and pathological appearance, is identical in the European and the primitive Bantu. This is of particular interest when considered in connection with the reports on the diet which are given later in this synopsis. It has frequently been shown experimentally and stated clinically in our literature that a deficiency of vitamins C and D cause faulty development of the teeth. It is also surprising that no cases of enamel hypoplasia were found in the Bantu.

The diet of the primitive Bantu is poor and deficient in essential food factors. He often subsists on a diet just above the starvation level so that his intake of calcium and phosphorus is barely sufficient for his needs. Latent scurvy is very common, revealing the absence of sufficient vitamin C. Vitamin D deficiency may be neutralized by the presence of abundant sunlight. In civilized surroundings and enjoying a more balanced diet the Bantu loses his immunity to caries. This is of interest in connection with the work of Lennox who points to the shortage of phosphorus in civilized diets as an aetiological factor in caries. The main article of Bantu diet is maize, a cereal. The diet is largely vegetarian. Milk is a fairly common constituent of the diet and is generally used either sour or fermented.

The above short synopsis is intended only to bring out some of the high points of this careful report of some 55 pages, which is certainly one of the most interesting comparative reports of a European and primitive group so far presented in our literature. Dr. Staz's findings certainly seem at variance with some of the statements which have been freely made in our literature with regard to diet, but this study has been so carefully carried out that it well merits the thought and consideration of all who are interested in the problem of caries.

## • THE APPROACH TO A NATIONAL DENTAL HEALTH SERVICE

by BRYAN J. WOOD, L.D.S., ENG.

*(Excerpts from a paper read at the Public Health Services Congress, Nov. 15, 1938.)*

THERE are something over 900 school dental officers, in addition to the Dental Services of His Majesty's Forces and the Maternity and Child Welfare Schemes. The Approved Societies spend a sum of £2,000,000 per annum on the provision of dental treatment as an additional benefit under the National Health Insurance Acts.

The fact that every Local Education Authority has a school dental service should not tempt us to forget that by far the majority of these schemes are so seriously understaffed as to be incapable of dealing adequately with the work which requires to be done; nor should the fact that 12,000,000 insured persons are eligible for dental benefit blind us to the fact that for various reasons less than 10 per cent of that number avail themselves of that service in any one year and that 65 per cent of the money available is spent on the provision of dentures.

I would urge as strongly as I possibly can, that no scheme for a National Dental Service could be considered complete or satisfactory unless considerably greater financial provision, than is at present available, were made for further extended research work.

If that were done it might reasonably

be hoped that it would, in time, be posible to prescribe a mode of living, which if it were adopted, would lead to a very drastic reduction in the incidence of dental caries even if it did not completely prevent it.

The Approved Societies are at present expending somewhere in the neighbourhood of £2,000,000 per annum towards the cost of additional dental benefit, and the greater part of this large sum is spent on what is in effect a breakdown service for the supply of dentures to people whose teeth are so hopelessly carious as to be unsaveable, and yet it is doubtful whether even one-hundredth of that sum is being expended on the research which might give us the knowledge of how to go through life with the dentition provided by nature unimpaired in its efficiency.

The successful outcome of a research campaign would, however, be only the first step, and it might well be found that, arduous and difficult though it had been to discover and establish the facts, the hardest part of the battle was still to be fought.

A totalitarian dictator might conceivably decree a wholesale alteration in the dietary of a nation, but we in this country would perforce have to reach our objective by the longer method of education and persuasion, and we have only to think for a moment of the appallingly neglected state of the teeth of the greater part of the population to realize how much is still required to be done to bring about a general realization of the importance of dental health, and until this had been done it would be impossible to effect such an alteration in the accustomed dietary of the people as would be necessary to achieve anything like complete prevention.

Although dental disease is responsible for so much ill health, it is in itself so common and apparently so trivial that it is accepted as being almost in the natural order of things, and the task of the reformer in this field is therefore much harder than it would be in the case of diseases which were obviously fatal.

If we are ever to achieve either the first best of true prevention, or the second best of complete early treatment, it is imperative that we should create in the public mind a conviction that a healthy mouth is literally the gateway to a healthy body, for without this conviction much of our work will inevitably be wasted. To establish it, the fullest use should, therefore, be made of every means of educational publicity. Broadcasting, the Cinemas, Posters, Newspaper Articles, Lectures, Health Weeks, and similar methods suggest themselves as possible ways of supplementing the work of the school service and the educative influence of the private practitioner.—*British Dental Journal.*

## • ECONOMICS

WHY should building-trade labour unions be encouraged to demand higher wages and shorter hours with home building costs at an all-time high; and farmers be required to stop growing cotton and kill their hogs for government checks, when the president claims that one-third of the people are ill-fed, ill-housed, and ill-clothed—yet about one-half of this one-third own and operate automobiles? Also, children in these families find more money to spend on soda pop and candy bars each year than would be needed to keep their mouths free from disease.—*From the Report of the Committee on Socio-Economics and the Committee on Legislation, American Association of Orthodontists,* 1938.—*Am. Jour. of Orthodontics and Oral Surg.*

## • CHILD HEALTH: OUR NATION'S GREATEST ASSET

by JOHN C. BRAUER, D.D.S., A.B., M.Sc.
*Director of the De Los L. Hill, Jr., Memorial Children's Clinic, The Atlanta Southern Dental College, Atlanta, Ga.*

IT CANNOT be denied that good health promotes happiness and prosperity. A NATION THAT WILL CHAMPION AND ENCOURAGE THE HEALTH OF ITS GROWING GENERATION CERTAINLY INVITES AN OPTIMUM FUTURE.

Comparatively few individuals keep up their courage and progressive spirit when ill or in pathologic state.

That dentistry, especially dentistry for children, plays a tremendously important part in the general health is no longer doubted. Nature intended that the growing child should have an efficient organ of mastication which is to co-ordinate the physiological functions of the entire digestive tract. The loss of any unit, such as a tooth or teeth, impairs natures scheme and therewith the price must be paid. Mechanically, the child loses the privilege of grinding or chewing its food properly, and invites the bad habit of swallowing its food whole. This habit can and does throw the burden upon the stomach and the rest of the digestive organs and alimentary tract. The consequences of such a habit are evident and are common knowledge to all thinking medical men. The early loss of the deciduous tooth, particularly the molars, usually results in the collapse of the arch in that area. Specifically, the anterior drifting closes the space and thereby invites orthodontic problems in the recreation of the space for the permanent successor. The cost of re-opening these closed areas is prohibitive in a large percent of our families, and unless a space retainer is placed, upon the event of an early extraction, malocclusion is on the way in many instances. The inefficiency of mastication, the resultant inferiority complexes, and the early vulnerability to diseases are all sequelae to the various malocclusions.

The deciduous and young permanent teeth must be filled when an incipient decay is in evidence. The finest explorers, and the regular use of the x-ray must be employed if a competent examination is desired. The dentist is only fooling himself and cheating his patients, if this routine is not followed. One has only to take a few bite-wing x-rays to be convinced of this statement.

The decayed teeth soon result in pulp involvements which if not properly treated mean infection and the distribution of pus organisms throughout the body. Check any public health record and note the major causes of the deaths. The one that most often tops the list is heart disease. WHY DEATHS FROM HEART DISEASE? The answer: INFECTION.

The thinking, truthful, and modern dentist or physician can no longer say, "the deciduous teeth are unimportant". The writer has been asked many times by mothers, "Why is it necessary to fill baby teeth?" The simplest and most effective answer is then given: "Can you tell or show me one good reason why nature placed these baby teeth in the mouth of your child if there were not some definite use for them?" It was nature's plan to have a set of teeth in the child's arches to allow for mastication and to accommodate the child's face and general stature. When the child's body continues to grow the face and arches grow with it; thus, new and larger teeth are needed. The early extraction wrecks these well synchronized developments and a severe penalty is in store. The dentist is directly responsible for this guardianship, and in his hands lies the happiness and despair of many.

*—Released through Committee on Co-operation of the American Association of Dental Editors.*

## • PULP DEATH FOLLOWING CAPPING

by W. CLYDE DAVIS, Lincoln, Nebraska

BY FAR the largest percentage of pulps lost after pulp capping die from toxemia and not from bacteria as many dentists believe. The bacteria which play their part in tooth decay are obligate aerobic and when robbed of contact with the oxygen of the air and oral fluids, as under a tight filling, are inhibited from further growth and soon die. In case they are not completely shut off from oxygen, their excreta and secretions soon create an acidity which destroys the bacteria. Softened dentine below large fillings frequently is found to be sterile and of a pH of 3 to 5. But the pulps continue to die from toxemia. This may be prevented largely by the following treatment: With the cavity made dry, apply on a pellet of cotton or spunk the following, mixed fresh each time: hydrogen peroxide, 10 drops; household ammonia, 4 drops. After a minute or two remove and again dry. Then apply in the same manner the clear ammonia and follow with thorough bathing with warm water. This should remove all substances detrimental to pulp health. This treatment may be followed by any of the many methods of pulp protection. Of note is the Howe silver treatment, also the zinc oxide and eugenol paste.—*Journal of the American Dental Association and The Dental Cosmos, February, 1938.*

## • THE BANANA AS A NUTRIENT

CORNELL, in the *American Journal of Digestive Diseases and Nutrition,* reviews a recent book on bananas, published by the United Fruit Company. All medical and botanical references of importance to bananas during recent years have been included. The tomato for a long time was considered poisonous. Gradually it was found to be edible and to be a rich source of vitamins A and C. The banana, although not considered poisonous, has been forbidden fruit to children and invalids for many years. It was believed to be highly indigestible and not to be included on infant feeding lists. The editorial department of the *Journal of the American Medical Association* first showed the difference between the ripe and the green product. In ripening, the banana ferments change the high starch contents to easily absorbed soluble sugars. A brown-skinned banana indicates ripeness, not rottenness as is popularly believed. Bananas very seldom cause allergic symptoms and are sterile inside the skin. The ash is alkaline and the whole has a varied mineral content. Vitamins A, B, C and G are present. Many reducing diets now include the banana.—*Medical Times.*

## • HEALTH PROGRAMS IN GEORGIA

OF THE 40,000 white school children in the Atlanta City Schools, only 22 per cent had defective mouths upon examination last year. Just fifteen years ago, 96 per cent of Atlanta school children had defective mouths.

From January to December, 1936, 3,106 cases were treated in the clinic for any type of service. The following information concerning those cases is significant:

"These cases, of necessity, represent the lowest economic and social strata in the city. Of 3,106 cases: 109 six-year molars were extracted; ten children lost two six-year molars; eighty-nine children lost one six-year molar; seven twelve-year molars were extracted; forty-nine of the children having molars extracted had come into the system within the year."—*North-West Dentistry.*

## • DENTISTRY AS A CAREER

MR. HERBERT L. EASON, Principal of the University of London, suggested at the annual prize distribution of the Royal Dental School, held at the Royal Dental Hospital, Leicester Square, London, last month, that the profession offered good prospects since the numbers entering it were probably not sufficient to provide for the growing needs of an increasing population or for the inevitable wastage from the register.

Mr. Eason said that he had come to the conclusion that no one should talk about dental education unless he wore a denture or had had an impacted wisdom tooth extracted. That did not mean that discussion on dental education should be limited to aged persons, but that the wearing of a denture—especially an ill-fitting one—or the extraction of an impacted wisdom tooth brought home sharply that dentistry was essentially a technical profession and that what the public demanded was expert technique and mechanical and professional skill. With all the academic and scientific knowledge in the world, a dentist without technical skill would never make a living as a practising dentist.

But a wide background of sound academic and scientific knowledge was essential also. Here the question arose whether it was desirable that every dentist should have a medical qualification and be a specialist in the sense of an ophthalmologist or a nose and throat specialist; and whether it was desirable that every dentist should have a university degree in dentistry. The first, eminently desirable as it was, was impracticable, at present. The number of dentists required for the service of the public was so great that it would be hardly possible to find an adequate number of students with the necessary time and money. In the second case, if a university degree was so desirable, why was there so small a proportion of students taking a degree compared with the number taking the qualification of the licensing bodies? The reason was professional and economic. In the case of medicine or dentistry the student tended to take the essential qualification at the earliest opportunity. Then, for economic reasons, he entered into practice, was immersed in it, and failed to take his degree thereafter.—*The Times, (London) per Dental Magazine and Oral Topics.*

## • GIVE A SMILE

GIVE a smile—it costs you nothing—
When a friend you chance to meet,
Or a stranger whom you're passing,
Strolling down a busy street.

Give a smile—be always cheerful!
You'll create an atmosphere
Of goodwill and understanding,
Everywhere both far and near.

Give a smile—and always mean it!
Never harbour any ill.
Keep on smiling never failing,
You with joy your life will fill.

Give a smile—it's ever welcome,
Adding pleasure all around;
In its presence life is sweeter,
And true happiness is found.

Give a smile—'twill always pay you
Dividends beyond compare.
You will win so many friendships
That are lasting and so rare.

Give a smile—if you have nothing
You can give to ease one's care;
It will help to lift his burdens
From the depths of deep despair.

*W. A. Black, M.A., D.D.S., Toronto, Ontario.*

**• SECURITY**

THERE has never been a time in the history of dentistry when there has been a greater need for action to protect our ideals. We can no longer afford to follow that lofty belief that high proficiency in professional technique alone will mean security. The day of its truth is past, unless it is protected by sound socio-economic policies. We should realize more fully that we are business men as well as professional men. The health professions should give more attention to political economics and political technique if the United States is to hold its present rating as the leading nation of the world in both medicine and dentistry. Otherwise it will sink to the same level found in the European countries.—*From the Report of the Committee on Socio-Economics and the Committee on Legislation, American Association of Orthodontists,* 1938.—*Am. Jour. of Orthodontics and Oral Surg.*

**• THE ROLE OF CALCIUM IN ETHNICAL SUCCESS — OR FAILURE**

TO THE lack of calcium (and phosphorous) in certain soils Dr. Robert Dumont of Brussels ascribes the physical deterioration of the natives of the tropical regions, particularly in the case of Africa and the Philippines. This thesis, founded upon correlative studies of the natives and of soil and vegetable mineralization, has produced a considerable European literature.

Dumont compares interestingly from this angle the natives of the Congo, subsisting upon low-calcium food coming from soil extremely poor in calcium, and showing feebleness, premature senility, and undue susceptibility of disease, and the Egyptian fellahs, living on a hypermineralized soil, and showing extraordinary resistance to fatigue and infection. The former eat a greater quantity of food; indeed, the fellahs are decidedly frugal in their eating habits. It is in the great difference in the calcium ration that Dumont finds the explanation of this dietetic paradox.

Max Sturm (*Medical Record*, 142:445-446, Nov. 20, 1935) has written a brief but suggestive article in which he gives a theoretical explanation of the aetiology of cardiovascular disease. He ascribes a pre-eminent role to calcium deficiency. He believes that such deficiency strikes at the *heart* of nations.

Behind the early migrations of mankind may have been a calcium hunger urge. The fall and rise of nations, in the past, may have been more or less conditioned by this factor.

How can a people lacking calcium be "stout-hearted"? And how can a people lacking stout-heartedness be great? — *Reprinted by kind permission of Medical Times, October 1938.*

**• SPECIAL LEGISLATION FOR PRACTICE OF THE SPECIALTIES**

DENTAL organizations in three states, namely, Illinois, Tennessee, and Oklahoma, in recent years have succeeded in enacting laws which place the major specialties of dentistry under a supplementary licensing system. The object of the regulations is to force a termination of present conditions, under which anyone who has been admitted to the general practice of dentistry may publicly represent himself to be an expert in a particular branch, irrespective of the validity of his claim. Constant misrepresentation in the special fields is resulting in notorious abuses of the public and of the profession's confidence. Those holding dental licences, however, should be at liberty to practise any part of the accredited specialties, so long as it conforms to the regular routine of practice.

Recognizing that dentistry is a specialty of medicine, a physician may legally do any act within the field of dentistry, if that act is performed in a routine way for the treatment of disease or the relief of suffering. Just as a physician without a licence to practise dentistry may not lawfully represent himself to be a dentist, so also a dentist, who may justifiably regard himself as a specialist, should be obliged to demonstrate to the state examiners the validity of such a claim before being permitted to induce the public and his fellow-practitioners to believe it. As it is, every licensed dentist is free to hold himself out as a specialist in any branch of dentistry, without further examination by the official dental representatives of the state, or without licence represent himself as an expert operator in any oral specialty. — *From the Report of the Committee on Socio-Economics and the Committee on Legislation, American Association of Orthodontists, 1938. — Am. Jour. of Orthodontics and Oral Surg.*

"Now, before I sit down, young man—do you know anything at all about your business?"

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*Editor*—M. H. GARVIN, Winnipeg

A S S O C I A T E  E D I T O R S

PRINCE EDWARD ISLAND

*D. T. Waye, Charlottetown*

QUEBEC

*F. W. Saunders, Montreal*

ONTARIO

*T. R. Marshall, Toronto*

SASKATCHEWAN

*F. C. Harwood, Moose Jaw*

ALBERTA

*John Clay, Calgary*

*S. G. Ritchie, Halifax*

NEW BRUNSWICK

*J. F. Edgecombe, Saint John*

MANITOBA

*J. F. Morrison, Winnipeg*

BRITISH COLUMBIA

*J. S. Bricker, Vancouver*

# *Canadian Home Journal's Contribution To The Nation's Health*

In the February issue of the Canadian Home Journal there appears a splendid article entitled "Look After Your Teeth" by Dr. Harry S. Thomson, Secretary of the Canadian Dental Hygiene Council, in collaboration with Dr. Stephen A. Moore, President of the Canadian Dental Association, and the Public Dental Health Committee of the C.D.A.

This article on dental health is featured in this magazine, the title appearing on the cover of the issue and the article itself being attractively illustrated. This issue of the magazine should be in the reception room of every dentist in Canada. Obtain a copy at once before it is too late; in fact, obtain a number of copies and distribute them among your patients. It is an appealing article and will be most favourably received by your patients and will be of greatest benefit to yourself and to dentistry in general.

The Canadian Home Journal is a Canadian product of which we are proud. It has a mass circulation reaching over 250,000 Canadian homes in urban communities and has an estimated reading audience per issue of nearly 1,000,000 people. The value of this article in cold business figures is $5,000, but the value to the health of the Nation is inestimable.

Mr. William Dawson, Editor of the "Canadian Home Journal," has expressed his appreciation to the men in the dental profession who have helped to make this article possible, and we, as members of the dental profession, would indeed express our gratitude to Mr. Dawson and his associates for making this splendid contribution to the health of the Canadian people.

If space will permit, this article will appear in the March issue of the Journal of the Canadian Dental Association.

# *"Life" Magazine's Contribution To The Nation's Health*

In a letter to the Editor of "Life" Magazine which was published in this Journal last October, it was pointed out how certain pictures appearing in the July 11 edition of "Life" would prove detrimental to the health of the Nation. Many letters of protest, from those interested in health problems, were forwarded to the editor of this widely read weekly, with the result that the editors expressed regret at what had occurred, and pointed out that they had no desire to publish anything detrimental to dental science.

This problem might have been considered settled with this action and they might have done nothing further in regard to publishing dental pictures, good, bad or indifferent, but this was not the case with the enterprising editors of "Life" Magazine. They at once communicated with the Greater New York Bureau of Dental Information, a bureau created by the First and Second District Dental Societies of New York, which bureau had obtained some 300 dental photographs since last August. The result was that in the January 16, 1939, edition of "Life" there appeared ten full pages on "Dentistry," well written and splendidly illustrated. When we consider that the weekly circulation of this magazine is 2,400,000, with a total estimated audience of 17,300,000, that the Canadian circulation is 73,000, that the cost of ten pages of advertising in any one issue is about $55,000, we begin to realize just how splendid a contribution these far-sighted editors have made to the health of the nation, and to the dental profession of North America. We would urge our readers to write the editors of "Life" and express their

appreciation of this magnificent piece of work in the interests of public welfare. We would suggest that you see that a copy of this particular issue is found on your reception room table, for the education of your patients.

Tribute should also be paid to those energetic and faithful dental leaders in New York City who co-operated to make this masterpiece possible, namely, Dr. George C. Douglass, of the Greater New York Dental Meeting; Dr. James F. Henegan, of the First District Dental Society; Dr. Lester B. Dunning, of the Second District Dental Society; Dr. Edward G. Van-Valey, of the New York Academy of Dentistry; Dr. C. Franklin McDonald, Chairman of the First District, and Mr. Fice Mork, the Public Relations Counsel.

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# *Research Bulletin*

In December the Canadian Dental Research Foundation published its 24th Bulletin entitled, "A Liquefying Amylase in Human Saliva, Amylopectin, and Dental Caries" by Canada's No. 1 dental research worker, Harold Keith Box, D.D.S., Ph.D., F.R.M.S., of Toronto. This research was conducted at the Faculty of Dentistry, University of Toronto.

Dr. Box has pointed out that the soft palate is the best place in the mouth to obtain a satisfactory pH index of a general salivary mixture. He has shown that the parotid saliva is almost invariably acid in reaction in ordinary resting conditions, which condition must have some aetiological relationship to the lesions of the vestibule of the oral cavity. He has shown further that in the presence of a gelatinous hull substance and incorporated amylopectin, under conditions of a deficient amount of liquefying enzyme, and an acid reaction prevailing, the retention of debris on the tooth surface is favoured, which condition also furnishes an ideal environment for the colonization of acid-forming bacteria and the localization of acid production on the enamel. This would seem to satisfactorily explain the marked susceptibility to dental caries so frequently observed on certain tooth surfaces in the oral vestibule.

From these findings it would seem obvious that much of the work done, in the past, on general salivary mixtures, in relation to caries, is of little value since a general salivary mixture does not represent the true pH index in various parts of the mouth, particularly in the vestibule.

By the time this article appears in print the Canadian dentists will have received a copy of this splendid bulletin. Other copies may be obtained from the Secretary, Canadian Dental Research Foundation, Room 312, Medical-Arts Building, Toronto, Canada.

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## BOOK REVIEWS

**The Toothbrush:** Its Use and Abuse; by Isador Hirschfeld, D.D.S., F.A.A.P., Associate Professor of Dentistry, Columbia University; Attending Dental Surgeon, Presbyterian Hospital, Columbia University Medical Centre; Consulting Periodontist, Beth Israel Hospital, New York. A Treatise on Preventive Dentistry and

Periodontia as Related to Dental Hygiene with nearly 600 pages, 174 case histories and 415 illustrations. Published by the Dental Items of Interest Publishing Company, 2921 Atlantic Ave., Brooklyn, N.Y. Cloth. Price, $7.50.

This book, the only one of its kind ever written, is the result of a 25 year background of hard study, clinical work, teaching and practical experience. This masterpiece which took almost six years to write reflects that unusual background.

The author describes lesions which may be produced by improper brushing and the diagnosis, treatment and prevention of dental and periodontal abnormalities. He discusses the cleansing of dentures, dentifrices and mouthwashes, prophylactic odontotomy, correction of food impaction, regulation of the diet, etc.

It is no exaggeration to say that the toothbrush, properly used, produces definite beneficial effects (preventive and curative), but improperly used, is capable of producing limitless tissue damage, and of fostering a considerable amount of disease, consequently this book should prove itself to be of great value to the dentist who desires to render to his patient the best possible service.

Dr. Hirschfeld is recognized as a world-renowned periodontist and this book represents the conclusions arrived at by his brilliant intellect. This is not just another book. Peruse it carefully to your advantage.—*M. H. G.*

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**Special or Dental Anatomy and Physiology and Dental Histology, Human and Comparative,** (Vol. 11.), by T. W. Widdowson, L.D.S.R.C.S., Eng., Sixth edition, 347 pages, 189 illustrations and 2 plates. Published by John Bale, Sons & Curnow, Ltd., 83 Great Titchfield Street, W.I., London. Price 20/= net.

Volume I of this work was reviewed in the Journal of January, 1939. As was pointed out at that time the sixth edition is divided into two volumes so that the first section which deals with the human part of the subject may be revised and re-published more frequently than has been possible in the past, without also including the comparative part. Volume II deals entirely with the comparative part of the subject.

Following the general chapters which offer an introduction to comparative dental anatomy, definitions of terms used, a description of the functions of teeth, definitions of mammalian teeth and a general description of the attachments of teeth, the author discusses in detail the dental anatomy of the sections of the Animal Kingdom. Chapters deal respectively with the teeth of fishes, amphibia, reptiles, birds, mammals, marsupials, hoofed mammals, aquatic mammals, carnivora, rodents, insectivora, cheiroptera (bats), and the primates. The last two chapters deal with the evolution of mammalian teeth and special characteristics of skulls, bones and muscles of jaws.

The author is to be congratulated upon his effort in presenting this basic subject to the profession in such an interesting way. The book should prove an excellent text-book for students and a convenient work of reference.—*Kenneth M. Johnson.*

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**Year Book of Dentistry, 1938:** Edited by Charles G. Darlington, M.D., Professor of Pathology, New York University College of Dentistry; George W. Wilson, D.D.S., Professor of Operative Dentistry, Marquette University Dental School, Milwaukee, Wis.; Howard C. Miller, D.D.S., Chicago, Ill.; Walter H. Wright, D.D.S., Ph.D., Assoc. Professor of Prosthesis, School of Dentistry, University of Pittsburg; and George M. Anderson, D.D.S., Professor of Orthodontia, Baltimore College of Dental Surgery, University of Maryland. Published by the Year Book Publishers, 304 South Dearborn St., Chicago, Ill.; 807 pages and with 567 illustrations. Cloth. Price, $3.00.

The 1938 Year Book of Dentistry reviews the professional literature for the 12 months since the closing of the 1937 volume. Three-quarters of its contents is drawn from the dental and scientific journals of the United States and Canada, the rest being contributions from the leading journals of Great Britain and 10 other countries.

Each of the general divisions of dentistry is covered in a concise and interesting manner, one of the unique features being the 211 personal comments of the editors upon the articles reviewed.

From the splendid illustrations one can see at a glance what to do and how to do it. Ninety-nine techniques are described in step-by-step detail and differential diagnosis, which is so very important, is the subject of 10 contributions.

This international reference book is an encyclopedia in its scope and should be in the library of every dentist.—*M. H. G.*

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**Manual for Dental Technicians, Vulcanite,** by J. A. Salzmann, D.D.S., Chairman of Committee on Courses for Dental Technicians and Head of Dental Service, New York City Vocational Schools; Editor of New York Journal of Dentistry; Author of Principles and Practice of Public Health Dentistry. Published 1938 by Sir Isaac Pitman and Sons (Canada), Ltd., 381 Church St., Toronto, Ontario. Cloth 6" X 9". 374 pages, 286 illustrations. Price, $4.00.

This unique volume offers a formal course of instruction in dental mechanics presenting the basic principles of denture procedure. The book is written from a purely technical point of view in keeping with the generally accepted methods followed in the practical dental laboratory. The dentist who does his own laboratory work and the dental student as well as the dental technician will find here a practical handbook on the various laboratory procedures often taken for granted but seldom, if ever, described in texts on prosthetic dentistry.—*M. H. G.*

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# NEWS FROM THE PROVINCES

*NOVA SCOTIA:*

### Headmasters' Association

During the Christmas holidays the Nova Scotia Headmasters' Association held its annual convention in Halifax. One of the principal guest speakers was Dr. W. W. Woodbury, Dean of Dentistry at Dalhousie. Dr. Woodbury spoke on "Dentistry as a Profession". In a very able address he pointed out the increasing need for highly trained intellects in the profession and the scientific, cultural, and occupational opportunities existing for those who are qualified to take advantage of them.

Dr. Woodbury could hardly have selected a better audience if his intention was to emphasize the necessity for careful selection from the mental standpoint of those who are considering dentistry as a profession.

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### Oral Hygiene Activities

Dr. Harry Thomson of the Canadian Dental Hygiene Council has been in Halifax recently discussing the results of last year's campaign in the interests of improved dental health in Nova Scotia. As has been previously reported, the campaign was eminently successful and as an aftermath over six hundred cases have been treated in the Baddeck-Sydney area alone; Pictou County and the Rotary Club are combining forces in what promises to be a triumphal effort; about sixty requests for help from teachers in the outlying districts are already on file for immediate attention; and finally it can now be stated that fully equipped trailers with a trained permanent nurse in attendance will be available just as soon as the roads are passable in the spring. No one can say that the Oral Hygiene Committee is shirking its job.

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### Halifax Dental Society

At the last meeting of the Halifax Dental Society, after the dinner was concluded, Dr. McPhail of the Medical staff at Dalhousie gave a fine address on the drugs available for the treatment of Vincent's infection. A discussion of the pros and cons of centric occlusion followed, after which the meeting adjourned. A debate on the public health issue will follow the dinner at the February meeting.

*BRITISH COLUMBIA:*

### Vancouver Dental Society

The Vancouver Dental Society's policy of using local men as its guest essayists and clinicians, instead of outside talent, is receiving wonderful support from the members, as its meetings have been the largest since its formation.

Dr. W. D. McLeod was the guest essayist at the last meeting. His paper was divided

into three parts:—The Hospitalization of Patients, and Pre-Operative and Post-Operative Control of Hemorrhage and Apicoectomy. He described the procedure of hospitalizing a patient and operating room technique. In the control of hemorrhage, he gave an analysis of the blood content. One of the proteins, fibrinogen, was of most interest to dentists; it has the property of being converted from a soluble to an insoluble substance which is known as fibrin. Fibrin in turn acts as a net in which the blood cells and platelets are trapped, thus forming a blood clot. The change is brought about by the addition of a substance known as thrombokinase.

Coagulation Test.—Procure a few cc. of blood and remove to a test tube taking the time from the shedding of the blood until it congeals. Five to six minutes is considered normal.

Bleeding time.—Merely prick the skin and wait until the blood closes the wound. Two and one-half minutes is considered normal.

It is wise to make both tests as in hemophilia, bleeding time may approach normal, but coagulation time may run for hours.

Treatment.—Calcium lactate and calcium gluconate given in large doses from three to five days before operating. The absorbed calcium hastens the action of the thrombokinase. Injection of 1½ cc. of coagulum, either intramuscularly or subcutaneously or 3 to 5 cc. of hemostatic serum will prove of benefit. Direct blood transfusion may be necessary.

Local hemorrhage is divided into three, Primary—Time of the operation or injury. Intermediary—within 24 hours of the bleeding and Secondary—after 24 hours.

The control—Pressure packs moistened with some essential oil and sprinkled freely with tannic acid powder held firmly in place under pressure or by four tail bandage.

Secondary hemorrhage. Clean clot away, flush socket, remove any particles of alveoli or foreign matter, then pack as above. If an anaesthetic is employed, use one containing little or no vaso-constrictor. Snake Venom is recommended for controlling oozing from around non-infected blood clot.

Apicoectomy. This minor operation has a great deal of merit when limited to the upper anterior six teeth, providing the pathosis has not extended to such an extent that it has undermined the osseous retention of the tooth itself.

By means of x-rays and palpation determine the position of the infected area. By means of a heavy lancet make a large crescent-shaped incision through the soft tissues and the periosteum; turn back the flap from the bone and by means of a chisel remove the buccal plate, exposing the infected area. Remove such bone as will enable you to reach the full extent of the abscess pocket incisally. Excise the apical portion of the root with sterilized burs and make absolutely smooth.

Under the rubber dam the canal is enlarged and thoroughly cleaned and sterilized, the root canal is then over filled and sealed. Remove the dam and, by means of a hot instrument, the apical portion is smoothed flush with the root end. Wash the area with sodium perborate and pack with iodoform gauze for 48 hours, after which the wound is packed for three day periods with iodoform gauze in diminishing quantities until the granulating tissue will no longer accommodate the pack.

Dr. Leslie Marshall opened the discussion, and great interest, in the general discussion, was shown by the members.

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### Kiwanis Club Donation

A donation of $500 for free dental care for indigent children and adults of Vancouver was unanimously approved by members of the Kiwanis Club at their annual meeting in Hotel Vancouver on December 29.

*ALBERTA:*

### Edmonton Dental Society

The regular meeting of the Edmonton Dental Society was held in the Macdonald Hotel on January 10. The speaker was Dr. R. Kenneth Thomson; his subject was "Some Aspects of Psychiatry and Relation of the Teeth to some Mental Disorders". Dr. Thomson has had a wide experience in his specialty and his address proved most interesting and instructive.

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### Dr. Gilchrist in Calgary

Dr. H. A. Gilchrist, Professor of Prosthetic Dentistry at the University of Alberta, gave a clinic on The Fournet-Tuller impression tech-

nique to a large group of Calgary and district dentists on December 30 last.

*SASKATCHEWAN:*

**Moose Jaw Dental Society**

At the December meeting of the Moose Jaw Dental Society held in the Grant Hall Hotel, the President, Dr. A. M. Lowey and his bride were presented with a smokers' stand of modernistic design, on behalf of the members of the Society. Dr. W. W. Irwin made the presentation address, to which Dr. Lowey suitably replied. The balance of the meeting was occupied with business and a discussion of the programs for the season.

The January meeting of the same Society was held in the usual place with the President in the chair, and after the dinner, Dr. F. B. Cooper, the Chairman of the Program Committee, read some timely extracts from recent dental literature. Dr. A. F. Muirhead also read a very interesting, instructive and comprehensive paper prepared by Dr. E. P. Brady, of St. Louis, Mo., on "Treatment of Early Dental Pathology." Dr. W. W. Irwin and Dr. F. C. Harwood were appointed a committee to interview the local hospital authorities regarding lectures on "Oral Health" to be given to the nurses in training.

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Congratulations to Dr. A. E. Chegwin, Moose Jaw, are again in order on his re-election as an alderman of the City for a further term of two years. Dr. Chegwin has done splendid work on the Council for a number of years, especially during the past year when facing a reactionary majority in the Council.

*MANITOBA:*

**Manitoba Dental Association**

The annual election of three members to the Board of the Manitoba Dental Association resulted in the election by acclamation of J. F. Morrison and D. G. Leckie, of Winnipeg, and C. L. Strachan, of Virden. Dr. Leckie succeeds Dr. Evert White who retires from the Board after 8 years of service. Dr. A. E. Proctor, of Winnipeg, succeeds Dr. Bailey, of Portage la Prairie, as President of the Association. Dr. C. L. Strachan is now Vice-President and Dr. J. F. Morrison is Registrar and Secretary-Treasurer.

**Winnipeg Dental Nurses**

The Winnipeg Dental Nurses held their regular monthly dinner meeting on January 9th, in the Princess Tea Rooms.

Following a short business meeting, which was presided over by Mrs. Donald Black, President, a very enjoyable programme of readings and vocal selections was presented by the following artists: Misses Florence Mahon, Grace Fraser, and Eileen Haddick. Miss Ida Haggarty was the accompanist.

Members are now selling tickets for a Theatre Night to hear the John Holden Players at the Dominion Theatre on February 6th, the proceeds from which will enable the Association to carry on their charity programme for this year.

Plans are under way for a convention of the Western Canada Dental Nurses and Assistants Association to be held in conjunction with the Western Canada Dental Association Convention.

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**Winnipeg Dental Society**

The attraction at the January meeting of the Winnipeg Dental Society was Dr. P. E. LaFleche and his procelain clinic. Dr. LaFleche has demonstrated his hobby before the Western Canada Dental Society and other organizations and was much appreciated on this occasion.

*ONTARIO:*

**Further Municipal Honours in Ontario**

The names of Dr. E. J. Henderson, elected Councillor in Aurora, and Dr. W. H. Gifford, elected Alderman in Oshawa, were missing in our January list. No doubt other names of members of our profession who have successfully contested municipal elections in Ontario have also been missed and we will be glad to have such names for publication.

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**Milwaukee Dentist Visits Ontario**

Dr. Geo. A. Morgan of Marquette University, Milwaukee, addressed the Hamilton Dental Society and the Toronto Academy of Dentistry on January 12. Dr. Morgan's presentation was "Dentistry for Children." His paper on "Child Psychology" will appear later in this Journal. Dr. Morgan's slides and lecture following his paper were excellent

and his message was well received. He pointed out during his address that irregular teeth were caused in 37 per cent of cases by premature loss of deciduous teeth and in 19 per cent of cases by retaining deciduous teeth beyond a normal shedding time.

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### Elgin County Dental Association

Elgin County Dental Association had Dr. Chas. H. M. Williams of the Department of Peridontology of the Dental Faculty, University of Toronto, as its guest essayist on January 11 at its meeting in St. Thomas. Dr. Williams presented the "Technique of Occlusal Correction." He gave a practical demonstration and read a paper. Dr. S. A. Moore, President of the Canadian Dental Association was also a guest and spoke briefly to the members on problems of Canadian dentistry.

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### Peterborough Dental Society

Members of the Peterborough District Dental Society met on December 7 for an afternoon and evening clinic. The clinician, Dr. Lawrence Twible, a member of the Faculty of Dentistry, Toronto University, gave a most interesting and educational lecture on prosthetic dentistry.

At this meeting the annual election of officers took place. Dr. Harold Long was elected president and Dr. Wilfred Preston, secretary-treasurer.

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### Swallows Denture

William Catto, of Slate River, swallowed his denture on December 31 and was rushed to Rochester, Minnesota, to have it removed.

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### Dental Technicians Form New Association

The Toronto Study Club of Dental Technicians has just been formed. It has at present a membership of 30. The officers and executive members are as follows—President, S. Greville; Vice-President C. L. Daly; Secretary, D. Rollaston; Treasurer, W. Walker; Council, Mr. Elliott, Hamilton; W. Taylor, Oshawa, A. C. Whitley, Toronto; Chas. Spence, Toronto and H. Posen, Toronto.

The aims of the club shall be to co-operate with the members of the profession of dentistry in raising the standard of prosthetic dentistry.

No person may become a member of the club who has been convicted of illegal practice of dentistry.

The membership shall consist of dental laboratory owners or managers of good character and recognized ability with a sincere desire to raise the standard of their work to a higher plane. Dr. Floyd Sutton, Chicago, Dr. Irvin Ante, Toronto and Dr. Karl Knapp, New York have already addressed the Society.

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### Dental Nurses' Alumnae Association

The regular monthly meeting of the Dental Nurses Alumnae Association was held at the Women's Union, St. George St., Toronto, January 10. Dr. Frank Martin gave an interesting and instructive paper on "Inlay Technique." He also showed coloured moving pictures of his trip to Bermuda. Refreshments were served.—*Peggy Appleton, Cor. Sec.*

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### Toronto Dental Nurses' and Assistants' Association

At the January meeting of the above Association held in the Royal York Hotel, Dr. Wm. Blatz gave a very interesting talk on "The Development of Personality." Arrangements were also completed for the banquet to be held at the Granite Club on February 6.

Dr. Hurst, Dean of the College of Pharmacy, was the banquet speaker and gave an address on "The Romance of the Drug Store."

The new Memorial Library was installed and members are expected to take advantage of it. This library is the Dr. C. N. Johnson Memorial Library to which some of the famous writings of this great man were donated by his brother. The library will be added to from time to time.—*Catharine Simpson, Cor. Sec.*

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### Hamilton Dental Nurses' and Assistants' Association

The regular monthly meeting of the Hamilton Chapter was held at 6:30 on December 6, at the Wenthworth Arms' Hotel.

The Committee reported several needy cases of young mothers, whose teeth have been cared for through the Benevolent Fund.

This is the special hobby of the Hamilton members.

Dr. Hugh McLaren, of the Staff of the Ontario Hospital gave a very interesting talk on "Public Health in Dentistry." — *Jean Morrow, Cor. Sec.*

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**London Dental Nurses' and Assistants' Association**

On December 13, the London Dental Nurses' and Assistants' Association met in the office of Dr. S. M. Kennedy.

Mr. G. McKenna, of the S. S. White Company, gave an instructive talk on "S. S. White Filling Porcelain Improved."

Refreshments were served at the close of the meeting.—*Eileen Green, Cor. Sec.*

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**Windsor Dental Assistants' Association**

The monthly meeting of the Windsor Dental Assistants was held in the Canada Building, January 9, at 8 p.m., Mrs. Irene McNair, presiding.

A vote of thanks was extended to Audrey Chanley, who recently entertained the Chapter to an elaborate dinner and bridge. A dress clip was presented to Dorothy Scott, in appreciation of her work on the afghan which was raffled off in December. Mae Donaldson was appointed Corresponding Secretary.

The study of the "Dentist's Diplomat" was carried on with many worthy discussions. This study is enthusiastically enjoyed throughout the chapter meetings.—*Mae Donaldson, Cor. Sec., Walkerville.*

*QUEBEC:*

**In Memoriam Resolution Passed at the Annual Meeting of the Montreal Dental Club**

WHEREAS: Dr. David James Berwick was for many years a member in good standing and at the time of his death, an honorary member of the Montreal Dental Club, and that

WHEREAS: he did show by a record of professional service, namely: a dental teacher at Bishop's College, Dean of the Dental Department of McGill University, President of the College of Dental Surgeons of the Province of Quebec, Member of the Board of this College for many years; and one who worked to raise the standards of a growing profession; that he fully merited the high esteem in which he was held by our profession and by the public at large, and that

WHEREAS: we feel that we have suffered a great loss in the death of Dr. Berwick, we do hereby set aside a page in our minute book and inscribe thereon this record of a life that was a worthy example to the dentists of to-morrow. And be it further

RESOLVED: that we forward to Mrs. Berwick a copy of the above resolution, with our sympathy. And be it also

RESOLVED: that we send a copy of this resolution to the Journal of the Canadian Dental Association.

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**Montreal Dental Club**

The members of the Montreal Dental Club gathered at the Montreal Badminton and Squash Club for their annual banquet on Monday evening Dec. 19. Between 80 and 90 dentists were present.

Several changes of the bylaws were debated and accepted. Three members in the persons of Dr. F. G. Henry, Dr. W. G. McCabe and Dr. Chris Nichol were elected to honorary membership. Dr. Henry was presented by Dr. A. L. Walsh; Dr. McCabe by Dr. G. G. Armitage; and Dr. Nichol by Dr. A. D. Angus.

Officers for the ensuing year were elected by acclamation:

*President,* Dr. Campbell Morris
*President-Elect,* Dr. Leonard Kent
*Secretary,* Dr. J. W. Morton
*Treasurer,* Dr. R. B. Bell (re-elected).

New members of the Executive for a period of two years are Dr. Gordon Kelly, Dr. A. D. Angus, and Dr. R. A. Hart.

Dr. C. H. Barr, the retiring president, gave a short résumé of his year's work and thanked those who had been instrumental in making his year of office an outstanding success.

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**Mount Royal Dental Society**

The Mount Royal Dental Society's December Meeting was held in Salon D. in the Mount Royal Hotel, Tuesday evening, Dec. 20. The president, Dr. G. Franklin was in the chair.

A résumé of Dr. C. V. Williams' paper and Post Graduate Course as delivered at the 14th Annual Fall Clinic of the Montreal Dental Club was given by Dr. S. Cripps. This paper brought forth a heated debate about the histology of cementum, periodontal membrane, etc. The debate would have been carried on well into the morning had not the presiding officer called a halt.

Dr. P. Gitnick and Dr. Persk presented a résumé of Dr. Ladue's technique for full dentures. These papers were also fully discussed.

Dr. Levitt presented a report on a case of sarcoma of the mandible of a young girl, eleven years old.

Dr. Muhlstock discussed a case of allergy, due to vulcanite dentures.

The meeting was exceptionally well attended.

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**Gyro Club Donation**

Receipt of a donation of $500 from the Gyro Club of Montreal was announced, on behalf of the Children's Dental Clinics, on December 29. The Gyro Club's gift will be used to finance dental treatment for needy children in Victoria and Maisonneuve Schools, which it was estimated should afford dental care for these children for the next twelve months.

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# EMPIRE NEWS

*NEW ZEALAND:*

At the 30th Annual Meeting of the New Zealand Dental Association held at Wanganui in September, Professor J. Reid Burt, Editor of the New Zealand Dental Journal, was elected President.

*GREAT BRITAIN:*

**New Year's Honours**

Frank James Pearce, L.D.S.R.C.S., Eng., of London, England, received a knighthood in the New Year's honours of the King.

Sir Frank Pearce, as President of the British Dental Association, presided during the British Empire Dental Meeting held in London in 1936.

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**English Physician on the Panel System**

It was years and years and years ago when I joined the panel, and I have to make the awful confession that I thought we were supposed to treat panel patients just like our private patients. Of course it was silly, but I did not know any better. I was given a tremendous lot of pamphlets to read, but they gave me rather a headache, so I put them in the wastepaper basket and went on being silly. I used to treat their fractures, inject their varicose veins, and give them anaesthetics when they wanted their abscesses opened, and sometimes even take x-ray photographs. I did all kinds of things like that. Of course it didn't pay. I worked it out once with a ready reckoner that I was getting about 1s. 6d. a time, whereas my private patients paid 3s. 6d. or 5s., or even more sometimes. It didn't seem quite fair, but then I read somewhere that poor old England was very hard up and we had to do this work for next to nothing so as to be patriotic, and I liked being patriotic, so I thought it was all right. . .

So now I do what I am supposed to. I only treat cases of influenza, catarrh and rheumatism. I send all the others to the hospitals, where they have flag days and things to get the money, so they are all right, of course. It makes it very much easier, and now I have lots of spare time, so I use it to put in ever so many ticks on the record cards, because I understand the Minister likes ticks, and I like to please him. But the lovely part is, of course, that nobody knows any medicine that is any good for influenza, catarrah or rheumatism (or they didn't when I was at the hospital—but then I'm old fashioned), so I don't prescribe any medicine at all.—*J.A.M.A.*, 110: 191*B*, *April* 23, 1938. *per Bul. Chicago D. Soc.*

*AUSTRALIA:*

**Dental Survey of Departmental Store**

One large, progressive city firm wrote to the Victorian Branch of the Australian Dental Association stating that a dental survey of its

staff was being made and asking for the co-operation of the Association. It was proposed that all members of the staff should be examined and a confidential report of the necessary treatment would be issued. Those requiring treatment would be requested to see their dentists and have this treatment carried out.—*Australian Jour. of Den., Dec., 1938.*

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# GENERAL NEWS

### The Jessen Prize

The Jessen Prize was founded to recognize the services of Professor Jessen in the field of Oral Hygiene, on the occasion of his seventieth birthday.

Every five years the Prize is given to the individual or society which has rendered the greatest service to Oral Hygiene during that period.

The Prize will be awarded the year preceding the International Dental Congress, the actual presentation taking place at the opening meeting of the Congress.

Nominations will be submitted to the Executive Council by the Oral Hygiene Commission after a full session. The Executive Council has the power to postpone the adjudication for the Prize, if, in its opinion, there is no candidate of sufficient merit.

At the Paris meeting, 1938, it was agreed that all members of the Oral Hygiene Commission should be circularized and requested to nominate any person, society or corporation that they consider to have rendered the greatest service to Oral Hygiene during the last five years.

You are invited to submit, to the Secretary, any name that you think worthy of consideration together with your reasons for nomination.

Members are requested to give this matter their prompt attention.

*President*: A. E. ROWLETT
*Secretary*: G. S. LOADER
98, Gloucester Place, Portman Square, London, W.I.

### Nomenclature Committee of the C.D.A.

The following members have been appointed to the Nomenclature Committee of the Canadian Dental Association: Dr. Gerald Franklin, Montreal, (Chairman); Dr. D. Prescott Mowry, Montreal; and Dr. Frank M. Lott, Toronto.

### Post-Graduate Course in Orthodontia

**Faculty of Dentistry, University of Toronto**
**March 27 to April 29, 1939**

A Post-Graduate Course in Orthodontia for the General Practitioner will be held by the Faculty of Dentistry, University of Toronto, beginning Monday, March 27th, 1939. The course will cover one month,—two weeks of lectures and demonstrations, after which the registrant may, if he so desires, remain for clinical observation and practice.

The object is to give the general practitioner of Dentistry who is interested in the subject of Orthodontia, a short intensive course which will improve his ability to make a diagnosis, enable him to select cases in which he would be justified in undertaking treatment, prepare him to make the necessary appliances and treat the simpler types of cases. There will be a discussion of the appropriate ages for the various types of treatment of mal-occlusion, diet, bone formation, radiographic diagnosis and the problem of impacted teeth.

This course is not intended to train a practitioner for specialization, but rather to enable him to render better service to patients who are desirous of having the family dentist furnish some degree of Orthodontia treatment.

The teachers in this course will be Charles A. Corrigan, D.D.S., Professor of Orthodontia; S. Stuart Crouch, D.D.S., and G. Vernon Fisk, D.D.S. Lectures will also be given by other Faculty members on correlated subjects.

The class will be limited to ten practitioners, and the fee will be $100. for each registrant.

Application for registration or further information should be addressed to:

DEAN ARNOLD D. MASON
*Faculty of Dentistry*
230 College Street, Toronto.

# IN MEMORIAM

**Frederick G. Brethour,** aged 73, Toronto, Ontario, died January 5 at his home, following a two weeks' illness from a heart condition.

He was graduated from the Chicago Dental College and has practised dentistry in Toronto for the past 40 years. Dr. Brethour's interests which brought him into contact with an unusually large number of people included horticulture, on many branches of which he was an authority. His peony garden at Whitby, some three acres in extent, has been annually a spectacular sight when more than 250,000 flowers are in bloom.

He was a member of the Toronto Horticultural Society, the Ontario Horticultural Society and the American Peony Society. Dr. Brethour was a member of Timothy Eaton Memorial United Church and the Thistle Bowling Club.

He is survived by one daughter, Miss Alice A. Brethour, of Toronto.

•

**Charles A. Risk,** of Toronto, Ontario, aged 79, died December 30, at his home.

He was graduated from the Royal College of Dental Surgeons and since then has practised in the City of Toronto. For many years he was a member of the Toronto City Council and throughout his 13 years' service in the public life of the city took a keen interest in the promotion of public health. As Chairman of the Local Board of Health he was instrumental in the development of local health legislation and also in securing dental clinics for the public schools.

Dr. Risk is survived by his widow and one son, John C. Risk, a Toronto barrister.

•

**J. A. Thompson,** of Tweed, Ontario, aged 68, died December 21 from a heart attack.

After being graduated in dentistry he established himself in Omemee. Later he removed to Havelock where he carried on dental practice for some time and following this moved to Tweed where he has been a resident for the past 23 years.

He was the Past Grand Master of Tweed Lodge, Independent Order of Oddfellows, and also a Past Master of Omemee Lodge, A. F. and A. M. He was vice-president of the South Hastings Conservative Association and also took a keen interest in education, being a member of the High School Board at the time of his death.

He was a devotee of sports and was manager of Tweed's baseball team.

Dr. Thompson is survived by his three daughters, three half-brothers and one half-sister.

•

**T. Wingate Todd, M.B., Ch.B. Manc., F.R.C.S.,** who was to have been the essayist at the February meeting of the Academy of Dentistry, Toronto, died of coronary thrombosis in Cleveland on Dec. 28, 1938. At this meeting he was to have received an honorary membership in the Academy. He became well known to the members of the dental profession through his studies on growth and development of the healthy child.

Dr. Todd was born in Sheffield, Eng., in 1885 and received his early education at the local school, Nottingham High School, as well as private tuition. His professional training was received at Manchester University where he was graduated with first class honours in 1907. In addition to other appointments at the University of Manchester, he was Examiner in Dental Anatomy 1908-1912.

As Captain, during the Great War, he served in the C.A.M.C. 110 Regt. 64th and 65th Batteries. He was Officer in charge of the Surgery Base Hospital, Military Dist. No. 1, London, Ontario and Consultant at Kinmel Park Camp, Wales.

Because of his extensive research, which resulted in 475 scientific publications by the Dept. of Anatomy of the Western Reserve University where he was professor of Anatomy since 1912, he was internationally famous.

He is survived by his widow and three children.

## . . . SECTION FRANÇAISE . . .

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# *Les Corps Etrangers des Voies Aériennes et Digestives, d'Origine Dentaire*

## *Méthode de Leur Extraction*

par le docteur Maurice Bonnier, Bronchologiste.

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AVEC les progrès combinés de la science clinique, de la radiologie et des moyens aujourd'hui perfectionnés de l'endoscopie perorale qui permet d'explorer le larynx, la trachée, les bronches, l'oésophage et même l'estomac, et de traiter un grand nombre de leurs affections, il n'est plus permis à l'odonto-stomatologiste d'ignorer ou de négliger la présence, dans les voies aériennes et digestives, de corps étrangers de provenance dentaire.

La chute dans la trachée et dans les bronches, ou le logement dans une portion quelconque du tube digestif de corps étrangers d'origine dentaire, a été jusqu'à présent d'une fréquence plus grande qu'on a été porté à le croire. D'un autre côté, souvent ces corps étrangers ont été la cause de complications parfois fatales.

En face de ces constatations, je crois utile de traiter devant vous ce soir, de la question des corps étrangers d'origine dentaire. Dans cet ordre d'idées, je me rends au grand honneur que me fait votre président de m'inviter à parler devant les membres de la Société Dentaire de Montréal, et consens à vous parler sur ce sujet à la lumière de la large expérience de mes Maîtres Chevalier Jackson et L. C. Jackson de Philadelphie et de mes nombreuses constatations personnelles au cours de mon long séjour comme assistant-résident de leur Clinique.

Je désire exposer devant vous la fréquence trop méconnue des corps étrangers d'origine dentaire et vous présenter des considérations importantes sur leur étiologie; vous traduire la pathologie qu'ils entraînent en ayant soin de développer leur symptomatologie souvent discrète; vous soumettre certains aspects de leur prophylaxie; enfin vous décrire la méthode de leur extraction en l'illustrant de projections et d'un film en couleur.

*Etiologie et fréquence.*—Chez plusieurs cas de corps étrangers d'origine dentaire vus à la Clinique Jackson de Philadelphie, et chez lesquels la mauvaise condition des dents pouvait être rapportée à de la négligence; un mauvais ajustement ou la défectuosité d'une prothèse endommagée en était responsable. Dans huit cas, les patients n'ont pas revu leur dentiste pour recevoir une prothèse permanente après l'affaissement de leurs alvéoles; d'autres patients avaient négligé de faire réparer une prothèse à laquelle un crochet avait été brisé. Un patient avait chaque nuit, pendant 15 ans, porté son dentier avant de réussir à le déglutir accidentellement. Inutile de vous dire que dans ce laps de temps, les gencives s'étaient retractées, les alvéoles affaissées et modifiées dans leurs formes au point que le ratelier n'avait plus de point d'attachement. Dans un autre cas, le ratelier enlevé n'avait plus de dents; le patient en le portant avait cru protéger sa gencive contre toute blessure et, pour parler dans son langage, "empêcher sa gencive de faire mal".

Dans 44 cas, en privant du sens de contact avec le palais dur sousjacent, des dentiers ont été responsables de la déglutition d'os présents dans les aliments. Six patients ont inspiré, lors d'une chute, une dent branlante qu'ils avaient négligé de faire extraire. Dans d'autres cas, le délogement dentaire était dû à de la pyorrhée. Il est intéressant de noter que l'incidence de l'obstruction de l'oesophage par un corps étranger, tel que la viande, est plus élevée chez la personne âgée que chez l'enfant. La défectuosité plus fréquente des dents de l'adulte et du vieillard, généralement proportionnelle à l'avancement de leur âge, en altérant ou réduisant leur pouvoir de mastication est sans doute le facteur étiologique important de cette prépondérance. Dans tous les cas d'extraction dentaire rapportés à la Clinique Chevalier Jackson dont plusieurs ont été d'ailleurs constatés, étudiés et confirmés par nous, l'anesthésie locale n'a jamais pu être considérée comme cause contributoire même si dans un nombre de cas, un fragment de dent a été inspiré après écrasement de la couronne dans la pince d'extraction. Chevalier Jackson et Chevalier Lawrence Jackson ne croient pas qu'elle puisse l'être dans aucun cas. Il n'en est pas de même de l'anesthésie générale; il semble juste d'incriminer cette dernière comme cause influente principale. Dans un nombre de cas rapportés par les Jackson, un remplissage, dans d'autres, un morceau de dent avait été inspiré pendant une anesthésie au gaz. La respiration stertoreuse dans certains cas d'anesthésie au gaz peut être soupçonnée comme facteur de contribution; mais le même genre d'accident survint dans quelques cas d'anesthésie à l'éther. Par conséquent, du fait d'un emploi plus fréquent du gaz pour l'anesthésie dans l'extraction des dents, il serait injuste de lui attribuer plus de risques.

Un état d'inconscience, d'alcoolisme, de coma, de délire, de sommeil, de choc, d'insanité, une crise d'hystérie, d'épilepsie, de folie, une lésion du larynx, une paralysie bulbaire, des habitudes morbides, une tentative de suicide, un mouvement de chute ou même de simple hilarité, de brusquerie quelconque, peuvent être à l'origine de l'inhalation ou de la déglutition de ces corps étrangers d'origine dentaire.

La position assise ou demi-renversée en arrière, la plus universellement admise pour l'extraction ou la réparation des dents peut être un facteur de contribution dans l'étiologie de l'inspiration dans les voies aériennes, des corps étrangers d'origine dentaire.

*Instruments dentaires chirurgicaux.*—Après avoir fait un relevé de leurs nombreux dossiers qui comprennent plusieurs milliers de cas de corps étrangers des voies

aériennes et digestives qu'ils ont extraits, les professeurs Chevalier et Chevalier Lawrence Jackson affirment que chaque fois qu'il s'est présenté un corps étranger des voies aériennes et digestives d'origine dentaire, dans aucun cas, ils n'ont pu mettre en cause uniquement une faute de l'opérateur. Des accidents peuvent survenir aux spécialistes les plus compétents et les plus soigneux. Il suffit d'un soubresaut inattendu, d'un mouvement brusque d'un patient un peu nerveux pour occasionner le bris d'un appareil ou la chute d'un instrument. Considérant le large pourcentage d'individus qui se confient aux mains des odonto-stomatologistes, une telle constation oblige à rendre un tribut d'hommage à la dextérité et à la compétence de ceux qui exercent l'art dentaire.

Tel que rapporté par l'école philadelphienne et comme je l'ai déjà communiqué à M. le docteur et madame J. A. Corbineau de Paris, lors d'une présentation de ces derniers, aux membres de la Société Odontologique de France, d'un dispositif bague-chainette reliant un doigt de l'opérateur à son instrument à canaux, sur 26 cas d'instruments chirurgicaux rapportés par Jackson, 14, c'est-à-dire plus de la moitié avaient glissé des doigts du dentiste lors d'un mouvement brusque du patient. Fait intéressant à noter, l'appareil échappé était une broche dentaire dans les 14 cas; ce qui porte à croire à un facteur étiologique inhérent soit à la forme de l'instrument, soit à la manière de s'en servir. La position assise ou demi-renversée en arrière, la plus universellement admise par l'odonto-stomatologiste, rapprochant l'axe buccal antéro-postérieur de l'axe laryngo-tracheal, favorise la pénétration du corps étranger dans le larynx soit directement, soit après avoir buté sur le voile du palais, sur un point d'une région amygdalienne, sur le repli pharyngo-épiglottique ou le rebord de l'orifice laryngé supérieur. Si le patient est sous anesthésie génerale, les réflexes étant abolis, les muscles relâchés, et le courant inspiratoire aidant, surtout si la respiration est stertoreuse comme dans certains cas d'anesthésie au gaz, le corps étranger dans sa trajectoire, est aspiré au niveau du larynx. Si le patient n'est pas endormi, un spasme immédiat suivi du réflexe tussigène lui permet d'expulser l'objet. Mais si ce dernier rencontre un obstacle, une inspiration forcée secondaire fait pénétrer le corps étranger plus avant dans le larynx et la trachée avec comme résultat généralement, une véritable toux suffocante qui ne cesse qu'après l'accommodation de la muqueuse respiratoire, au corps étranger.

Le doigt du dentiste, lequel dans sa hâte ou son excitation tente de retirer l'objet qui a échappé sur le bord latéral de la langue ou le plancher de la bouche, peut être la cause du refoulement du corps étranger en arrière, ou du déclanchement de réflexes qui sont autant de facteurs de contribution à son inhalation ou à sa déglutition. Lorsqu'un corps étranger, par exemple, une broche dentaire a pénétré dans la trachée, elle tombe dans la bronche droite ou la bronche gauche selon l'inclinaison du patient à droite ou à gauche à ce moment, ou selon les lois de la mécanique trachéo-bronchique si elle se heurte à l'éperon. Généralement, elle pénètre dans la bronche droite à cause du grand calibre de celle-ci et de l'angle moins prononcé de sa lumière avec la projection de la lumière trachéale.

*Pathologie.*—Lorsqu'un corps étranger est inhalé dans l'arbre trachéo-bronchique, il y détermine des phénomènes pathologiques secondaires et des complications variant avec sa forme et son volume, le caractère de sa surface et la nature de sa composition. La muqueuse endo-bronchique pour une ou plusieurs causes, non encore déterminées, est sensible aux corps organiques, tout particulièrement les corps organiques végétaux; de même, elle réagit vite et s'infecte rapidement au contact des corps infectants. Lorsque les corps étrangers n'entrent pas dans cette catégorie ou ne sont pas traumatisants, ils ne déterminent des phénomènes que proportionnellement à leur forme et à leur volume. Il a été prouvé expérimentalement et cliniquement que la gravité des affections pulmonaires secondaires à la présence de corps étrangers dans l'arbre

trachéo-bronchique est proportionnelle au degré d'obstruction à la ventilation et au drainage déterminé par ceux-ci. Dès que la ventilation et le drainage sont rétablis, et généralement ils le sont dès que le corps étranger est extrait, l'affection récidive rapidement.

Les différentes obstructions par les corps étrangers dans la trachée ou les bronches sont en tous points comparables aux jeux des soupapes des pompes pour faire le plein, faire le vide, réduire ou fermer complètement la lumière d'une chambre ou d'un conduit. Lorsque la soupape laisse pénétrer l'air mais ne lui permet pas de sortir, nous avons de l'emphysème, c'est-à-dire un poumon distendu. Si l'emphysème augmente ou se prolonge, il y a danger de mort par surcharge du coeur. Lorsque le corps étranger empêche l'air de pénétrer et favorise plutôt la sortie de l'air restant, il se développe de l'atélectasie dans le territoire correspondant, c'est-à-dire un affaissement du poumon. Il en est de même lorsque la soupape obstrue complètement. Très vite dans le territoire distal, il se développe une suppuration laquelle entraîne à son tour des complications menaçantes qui sont l'inondation avec noyade du poumon, la dilatation des bronches, l'abcès, la broncho-pneumonie et même l'empyème.

Si le corps étranger n'obstruant que partiellement permet à l'air de circuler dans les deux sens et n'empêche pas un drainage partiel, il se développe une affection qui se manifeste par de la toux.

Permettez-moi de vous signaler ici deux points très importants: d'abord celui qu'un corps étranger peut pénétrer dans les voies aériennes ou digestives à l'insu du patient et même à l'insu de l'odontostomatologiste; ensuite celui qu'un corps étranger logé dans ces voies, mais qui n'est pas obstruant ni traumatisant, parfois ne détermine pendant un intervalle plus ou moins long aucun signe ou phénomène pulmonaire décelable. Ceci est vrai surtout pour les corps petits et métalliques. Permettez-moi de vous citer quelques cas: Un jeune homme âgé de 17 ans avait été admis dans un sanatorium pour tuberculose; la radiographie révéla la présence d'un support dentaire qui était dans le poumon gauche depuis un an et quatre mois. Cette pièce s'était détachée sans qu'on le sache lors d'une opération abdominale sous anesthésie générale; mais la possibilité de sa pénétration dans l'arbre bronchique avait été ignorée. Guérison complète après extraction. Chez un autre patient, un amalgame dentaire avait été inhalé dans le poumon droit depuis au moins un an; la toux dont se plaignait le patient disparut entièrement après extraction sous bronchoscopie. Dans un autre cas, une dent séjourna pendant trois mois dans le poumon avant qu'on ne s'aperçut que la suppuration chez lui était due à ce corps étranger. Un autre patient ayant développé une toux après extraction dentaire manifesta la crainte d'avoir avalé une dent. On lui dit de n'y plus penser. Après trois mois seulement, on découvrit à la radiographie un abcès pulmonaire secondaire à l'obstruction par une dent dans le poumon gauche. Dans un autre cas semblable la dent avait séjourné trois ans. La guérison complète suivit son extraction. Chez une dame de 49 ans qui avait le lobe inférieur du poumon droit noyé, ce qu'on avait pris au début pour de la pneumonie, la radiographie démontra la présence d'un amalgame qui obstruait la bronche depuis un mois. Chez un autre patient, on ne s'aperçut que trois mois après d'un abcès pulmonaire secondaire à l'obstruction par la présence d'un amalgame dans le lobe inférieur droit. Et cependant, ce patient avait une histoire définie d'étouffement par un corps étranger. Les dents des hommes dans l'arbre trachéo-bronchique déterminent une réaction de la muqueuse plus intense que celle produite par les corps métalliques de mêmes dimensions, de mêmes contours, d'un même pouvoir d'obstruction, mais non aussi marquée que celle déterminée par les cacahuètes ou les autres substances végétales. Il est vrai qu'habituellement, les dents ont des arêtes assez tranchantes; mais elles n'ont certainement pas le pouvoir traumatisant d'un tire-nerfs chargé lui aussi d'un nerf dentaire putride qui a piqué ou perforé l'épithélium; elles ne produisent pas de réaction au delà d'une

épaisseur d'un à deux millimètres. Le fait que les dents, généralement cariées lorsqu'elles existent comme corps étrangers, sont chargées de toutes sortes de bactéries vraisemblablement de tous les degrés de virulence, justifie le soupçon que la réaction de la muqueuse bronchique soit d'origine bactérienne.

Les complications des corps étrangers logés dans l'oesophage sont l'obstruction partielle ou complète, la perforation, l'emphysème médiastinal, l'infection du médiastin.

Un corps étranger logé dans l'oesophage, quelqu'il soit, doit être extrait le plus tôt possible afin d'arrêter les complications ci-dessus décrites, toujours graves à cause de la septicité naturelle permanente du conduit oesophagien dont la paroi a la minceur d'une feuille de papier.

*Prophylaxie.*—Vu la brusquerie et la gravité fréquente des accidents secondaires à la déglutition ou à l'inhalation des corps étrangers, et attribuables à une cause dentaire proche ou éloignée, il incombe aux membres de la profession dentaire d'appliquer les mesures de la prévention pour éviter d'avoir à recourir plus tard, aux mesures toujours pénibles pour eux, de la guérison. Pour ces raisons, tout autant ici sinon plus que dans les maladies fréquemment rencontrées dans l'exercice de leur spécialité, il est du devoir des odonto-stomatologistes de procurer aux patients sous leurs soins les modes de la plus grande sécurité et d'enseigner aux agglomérations comment ne pas commettre des imprudences qui peuvent leur coûter la vie. La publicité et l'éducation sont encore les meilleurs moyens.

Une analyse de 1135 cas de corps étrangers des voies aériennes et digestives faite par Chevalier et Chevalier Lawrence Jackson, démontre que dans près de 90 pour cent, l'accident était dû à une négligence évitable; négligence dans la préparation des aliments, dans le boire et le manger, dans le placement dans la bouche de substances non comestibles, négligence au jeu. Dans 3 pour cent des cas seulement il s'agissait d'aliments propres, lesquels pour la plupart n'avaient pas été suffisamment mastiqués ou cuits. Les enfants qui n'ont pas de molaires ne peuvent pas mastiquer les cacahuètes; celles-ci lorsqu'ils les avalent, ne subissent aucune modification; la cacahuète n'est donc pas une nourriture propre pour les enfants. Il faut éviter de mâcher des crayons, des cure-dents, des brins d'herbe, des bouts de paille. Je puis vous citer trois cas qui avaient des bouts de cure-dents logés soit dans les sinus pyriformes soit dans le tissu lymphoide de la base de la langue. Chevalier Jackson rapporte un cas de mort par péritonite secondaire à une perforation de l'intestin par un cure-dent.

Un aliment avant d'être servi devrait être toujours libéré des os, des écailles, des noyaux, en un mot de ses parties non comestibles. On peut faire exception pour les poissons et les oiseaux; mais il faudra les manger lentement et avec prudence.

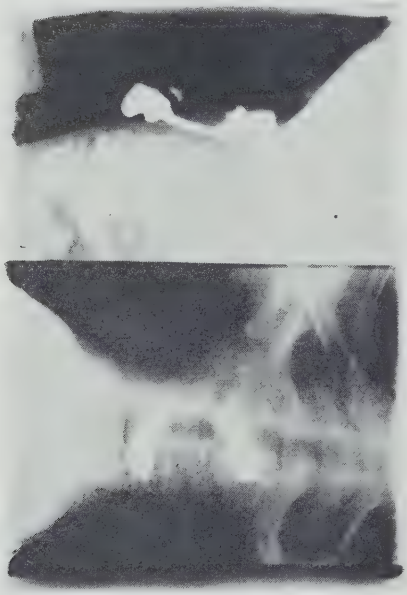
C'est en plaçant dans sa bouche les articles à sa portée que le jeune enfant apprend à connaître la nature physique de la plupart des choses; mais cette tendance naturelle de même que celle de l'enfant à mordre différentes choses pour aider sa dentition peut être combattue. Il est remarquable combien la réprimande peut avoir son effet, même chez l'enfant âgé à peine de deux ans. Mais les enfants plus jeunes devront être surveillés. Les anneaux pour la dentition et les jouets devront toujours être trop gros pour être déglutis ou inhalés; les jouets devront être inspectés pour s'assurer qu'il n'y a pas de parties détachables.

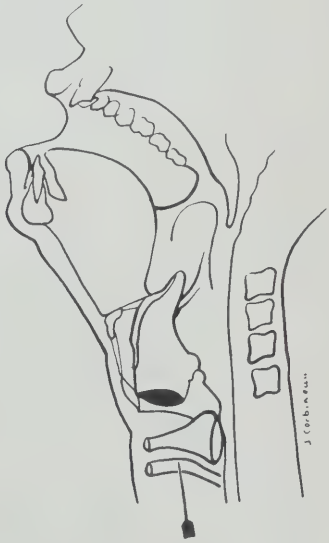
Permettez-moi de signaler en passant que les tentatives d'extraction avec les doigts sont souvent responsables du délogement ou du refoulement de corps étrangers qui autrement auraient pu être enlevés rapidement au moyen d'une pince. L'index, qui recourbé en avant en crochet sous un corps étranger pour le déloger du laryngo-pharynx, peut forcer celui-ci à pénétrer dans le larynx. Les rateliers ou prothèses dentaires détachables doivent être enlevés avant tout examen de la bouche ou toute

anesthésie; la prudence commande également de le faire chez tout individu inconscient ou en état d'intoxication par l'alcool, de délire, de syncope, de choc, de lipothymie, de sommeil. Il ne faut pas oublier que chacun doit le faire tout particulièrement durant le jour avant sa sieste ou son somme. Les prosthèses dentaires devront être examinées périodiquement et tenues en bonne condition.

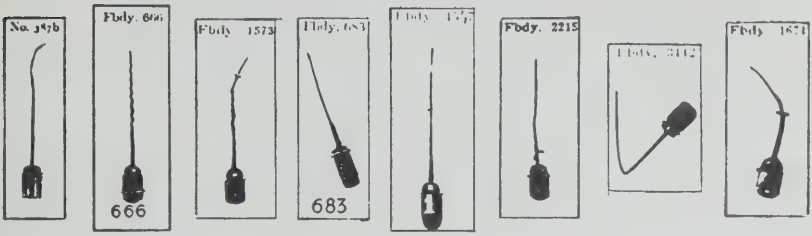
Quelle doit être la conduite de l'odonto-stomatologiste en face d'un patient qui a fait échapper de sa pince ou de ses doigts un amalgame, une dent, un tire-nerf ou quelqu'autre pièce? Avec un calme absolu, il doit chercher à localiser le corps étranger; ensuite l'enlever avec une pince et non avec ses doigts. Si le corps étranger a été dégluti ou inhalé mais n'incommode pas son patient, il peut achever son travail. Pour le cas contraire, il doit cesser tout travail immédiatement, et vite mais calmement diriger le patient au spécialiste des corps étrangers. Si le corps étranger n'est pas incommodant, il y a la possibilité quand même qu'il soit obstruant ou traumatisant. Dans ce cas il faut encore diriger sans tarder le patient à une personne compétente dans la matière. Si le corps étranger n'obstrue aucunement et ne peut traumatiser, le dentiste doit le référer au radiologue qui le localisera immédiatement. S'il n'est pas passé dans l'estomac; ce dernier consultera l'endoscopiste pour son extraction. Dans le cas contraire, le radiologue reconfortera le patient, lui demandera d'observer ses selles pendant quelques jours pour l'y decouvrir au cas où il serait expulsé par les voies naturelles. Si les selles sont négatives, il est préférable et plus sûr de le diriger au spécialiste des corps étrangers.

Si l'odonto-stomatologiste observe cette ligne de conduite, il réduira d'une manière optimum les possibilités de nuire à son patient et de se nuire à lui-même.





## QUELQUES PHOTOGRAPHIES DU TABLEAU DE CLASSIFICATION D'INSTRUMENTS DENTAIRES EXTRAITS DES VOIES AERIENNES D'APRES CHEVALIER JACKSON




| N° | AGE | LOCALISATION | ANESTHÉSIE | TUBE | PROBLEME | PINCES | TEMPS | REMARQUES |
|---|---|---|---|---|---|---|---|---|
| 387b | 39 ans | bronche du lobe inferieur droit 7 jours | locale | 7 m/m | Trouve dans une petite bronche périphérique | Pince à mors droits recourbes | 1m 50s | Areole inflammatoire entouree d'un exudat purulent. |
| 666 | 45 ans | bronche du lobe inferieur droit 10 jours. | locale | 9 m/m | Corps etranger dans une petite branche contournant l'angle | Pince à mors droits recourbes | 10m 1s | Degre tres leger de bronchite localisée |
| 1573 | M. 35 ans | bronche du lobe moyen droit 16 jours | locale | 5 m/m 40 cm | Broche trouvee dans le lobe moyen | Pince à mors droits recourbes | 5m 55s | Deuxieme cas dans lequel une lime à canaux est logee dans le lobe moyen Sans suppuration. |
| 683 | 18 ans | 9 jours branche post de la bronche du lobe inferieur gauche | sans | 7 m/m | Petit objet dans une petite ramification | Pince à mors droits recourbes | 2m 2s | Contraste marque entre la trachee rouge et enflammee et la paleur de la muqueuse pharyngienne. Inflammation tres intense de la bronche gauche avec des masses globulaires consistantes épaisses tres adhérentes |
| 1557 | M. 29 ans | 9 jours branche mediane post de la bronche du lobe inf. gauche | locale | 4 m/m 45 cm | Aspect: la pointe etait à 2cm en-dessous du dôme du diaphragme | Electro aimant | 14m 50s | Bronchoscopie costophrenique sous radioscopie |
| 2215 | M. 90 ans | 16 jours branche mediane de la bronche du lobe inf. gauche | sans | 5 m/m 45 cm | Découverte du corps etranger logé dans l'une des nombreuses bronchioles de ramification | Pince à mors droits | 8m 30s | Guerison |
| 3142 | M. 63 ans | 9 jours branche mediane post de la bronche du lobe inf. gauche | sans | 4 m/m 45 cm | Decouverte de la tige delicate du corps etranger | Costo phrenique | 1 heure 34m 13s | Guerison |

# l'Orthodontie *(suite)*

par PAUL GEOFFRION, B.A., D.D.S., A.I.D.O. (R.A.)
*Membre de l'Académie Internationale d'Orthodontie; Professeur Titulaire d'Orthodontie de l'Université de Montréal.*

## 2 ème GROUPE

### Anomalies de Developpement des Arcades

Jusqu'ici nous avons étudié les malpositions des dents considérées isolément. Si les arcades dentaires étaient toujours parfaites ou à peu près, dans leur dimension et leur forme; l'étude seule de ces malpositions serait suffisante pour nous faire comprendre toutes les anomalies que nous pourrions rencontrer

dans la pratique courante.

Cependant tel n'est pas le cas, et s'il arrive parfois que la malposition n'affecte qu'une seule dent, nous rencontrerons presque toujours une association d'anomalies diverses frappant non seulement la dent mais aussi les maxillaires dans leur forme et leur développement. Voilà pourquoi nous ajouterons au premier groupe des anomalies un deuxième groupe qui comprendra toutes les anomalies de développement des arcades dans le sens transversal.

Les anomalies transversales des arcades sont de deux sortes; ou bien les arcades sont trop étroites et nous disons qu'elles sont en CONTRACTION; ou bien elles sont trop larges et nous disons alors qu'elles sont en DISTRACTION.

La CONTRACTION d'une arcade peut se présenter sous 14 formes différentes et elle peut être:

SUPERIEURE: Si elle existe dans l'arcade supérieure.

INFERIEURE: Si on la trouve dans l'arcade inférieure.

BILATERALE: Si elle existe des deux côtés de l'arcade ce qui arrive habituellement.

UNILATERALE: Si on la rencontre d'un seul côté de l'arcade.

SYMETRIQUE: Si le degré de contraction est le même des deux côtés de l'arcade que l'on sépare par la médiane.

ASYMETRIQUE: Si le degré de contraction n'est pas le même des deux côtés de l'arcade.

ANTERIEURE: Si la contraction réside dans la région des incisives et canines.

POSTERIEURE: Si elle existe dans la région des prémolaires et molaires.

TOTALE: Si la contraction n'est plus limitée à une seule partie de l'arcade mais existe dans l'arcade toute entière.

LEGERE: Si le degré de contraction est moins de 5 mm.

MOYENNE: Si le degré de contraction est de 5 mm à 10 mm.

EXAGEREE: Si le degré de contraction dépasse 10 mm.

ALVEOLAIRE: Si la base apicale ou la base du procès alvéolaire est en relation anormale par rapport au corps de la mâchoire.

La DISTRACTION d'une arcade peut aussi se présenter sous 14 formes différentes et par conséquent peut être SUPERIEURE, INFERIEURE, BILATERALE, UNILATERALE, SYMETRIQUE, ASYMETRIQUE, ANTERIEURE, POSTERIEURE, TOTALE, LEGERE, MOYENNE, EXAGEREE, ALVEOLAIRE, DENTAIRE.

| | |
|---|---|
| ARCADES EN CONTRACTION | SUPERIEURE<br>INFERIEURE<br>BILATERALE<br>UNILATERALE<br>SYMETRIQUE<br>ASYMETRIQUE<br>ANTERIEURE<br>POSTERIEURE<br>TOTALE<br>LEGERE<br>MOYENNE<br>EXAGEREE<br>ALVEOLAIRE<br>DENTAIRE |

| | |
|---|---|
| ARCADES EN DISTRACTION | SUPERIEURE<br>INFERIEURE<br>BILATERALE<br>UNILATERALE<br>SYMETRIQUE<br>ASYMETRIQUE<br>ANTERIEURE<br>POSTERIEURE<br>TOTALE<br>LEGERE<br>MOYENNE<br>EXAGEREE<br>ALVEOLAIRE<br>DENTAIRE |

A première vue cette description des anomalies de développement des arcades peut paraître compliquée, mais si l'on a soin de bien étudier les (Figures 20 et 21) au moyen du tableau que nous venons de donner on verra qu'elle est

plutôt simple et pratique. On nous fera peut-être un grief d'avoir accepté ici les termes employés par le Dr. Simon de Berlin, mais nous les croyons préférables à beaucoup d'autres.

Connaissant maintenant les différentes formes de maldéveloppement des arcades, dans le sens transversal; voyons de quelle manière le modeste praticien dépourvu des "lumières pontificales" peut déterminer le degré de CONTRACTION, de DISTRACTION, de SYMETRIE, D'ASSYMETRIE etc, d'une arcade en zig-zag ou en accordéon.

Les méthodes qui cherchent à déterminer les degrés de CONTRACTION ou de DISTRACTION d'une arcade sont nombreuses et se basent toutes sur la forme ou les dimensions des dents. Nous nous contenterons d'en donner une, celle de L'INDICE DENTAIRE DE PONT, corrigée par KORKHAUS, et nous mêmes. Ne voulant pas entrer dans les détails de construction de cet INDICE, nous en donnons la table détaillée ou en regard de chaque dimension des incisives, on peut lire la distance interprémolaire et intermolaire adéquate, ce qui nous permet de prévoir et de diagnostiquer la CONTRACTION, la DISTRACTION, L'ASYMETRIE la SYMETRIE d'une anomalie maxillaire dans le sens transversal.

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# Le Prix Jessen

Le Prix Jessen a été créé en reconnaissance des services rendus dans le domaine de l'hygiène buccale par le Professeur Jessen, à l'occasion de son soixante-dixième anniversaire.

Tous les cinq ans ce prix est décerné à des personnalités ou des sociétés ayant rendu pendant cette période les plus éminents services à l'hygiène buccale.

Le prix sera attribué l'année précédant le Congrès Dentaire International, la remise elle-même se faisant à la séance d'ouverture du Congrès.

Les propositions seront soumises au Conseil Exécutif par la Commission d'Hygiène après séance plénière. Le Conseil Exécutif a le droit de surseoir à l'attribution du prix s'il juge qu'aucun candidat ne présente les qualités requises.

A la Session de Paris 1938, il a été convenu que tous les membres de la Commission d'Hygiène Buccale seront touchés par lettre circulaire et priés de proposer toute personne, société ou communauté qu'ils jugent avoir rendu les plus éminents services à l'hygiène buccale au cours des cinq dernières années.

Vous êtes prié de communiquer au Secrétaire tout nom que vous jugez digne d'être pris en considération en indiquant les raisons de votre proposition. Prière d'étudier cette question et de répondre au plus tôt.

Le Président: A. E. Rowlett
Le Secrétaire: G. S. Loader, 98, Gloucester Place, London, W1.

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# Revue des Revues

*Hématologie Moderne et Art Dentaire*
par le Dr Arnault Tzanck.

L'hématologie comporte deux ordres de données:

Les unes lui sont propres. Ce sont les faits ou syndromes hématologiques.

Les autres sont communes à toutes les branches de la médecine, ce sont les circonstances dans lesquelles ces faits se manifestent, c'est leur place dans la

pathologie: ce sont les maladies du sang.

Tout état morbide doit être situé en égard à l'apparence qu'il revêt (clinique) et à sa nature réelle (nosologie).

Ce sont là les deux coordonnées qui permettent sinon une classification réelle, du moins un tableau synoptique sur lequel on peut situer le fait clinique et en déduire non seulement sa signification, mais des directives précieuses pour le diagnostic et le traitement.—*La Revue Odontologique, juin 1938.*

*Ostéomes du Maxillaire et de la Mandibule* par George A. Morgan, D.D.S.

Parmi les ostéomes les plus connus du maxillaire et de la mandibule, se placent ces difformités de la voûte palatine et de la crête alvéolaire, qu'on désigne aussi sous le nom de protubérance osseuse palatine ou mandibulaire. Ces masses anormales peuvent varier à l'infini; elles peuvent être uniques ou bilatérales, minuscules ou du volume d'une amande. La cause de ces exostoses est obscure; elles sont le résultat de l'hypertrophie de la couche corticale de l'os et l'examen microscopique nous les présente seulement comme un amas très dense de cellules osseuses ordinaires.

Ces ostéomes n'ont aucune signification clinique à moins qu'ils s'opposent mécaniquement à l'insertion de pièces de prothèse et leur élimination chirurgicale n'est justifiable que dans ces cas.—*(Oral Health, août 1938).*

*Ostéomyélite de la Machoire* par Emil L. Aison, D.D.S., Chicago, Ill.

1) L'ostéomyélite de la mâchoire et les autres infections sérieuses des tissus buccaux et des parties avoisinantes sont causées par l'action de bactéries pathogènes, qui deviennent plus actifs et plus virulents en présence de traumatisme et de résistance affaiblie.

2) L'expérience nous indique l'aggravation ou l'accélération de la poussée infectieuse, si une injection de solution anesthésique est faite à la légère dans des tissus inflammés.

3) La mandibule, les tissus cellulaires du plancher de la bouche, les régions sous-maxillaires, sub-linguales et du cou sont très susceptibles aux inflammations infectieuses et le fait est que ces endroits sont atteints plus fréquemment que les autres.

4) Le dépistage à temps, le drainage bien fait et à bonne heure du foyer, et la fortification de la résistance constituent la procédure toute indiqué et de première importance.

5) L'urée en solution (10 p.c.) ou sous forme de cristaux purs est un agent effectif pour le déblaiement des débris purulents et pour promouvoir la guérison des infections buccales ou des parties adjacentes.

6) L'ostéomyélite des mâchoires, séquelle du traumatisme, occasionnée par une extraction peut fort bien être amenée par une syphilis active ou latente.

—*J.A.D.A., août 1938.*

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# *Suggestions Pratiques* *

* Nous prions les confrères qui auraient en leur possession des méthodes, des remèdes ou des tours de main pratiques pour résoudre tel problème ou telle difficulté, ou de simplifier ou d'améliorer le rendement d'une technique, de les faire parvenir à l'Union Dentaire. Il nous fera plaisir de les publier et de rendre service à nos confrères.

FRAISES EMOUSSEES: Ne jetez pas au panier vos vieilles fraises; elles font des polisseurs parfaits pour lustrer des amalgames décolorés. Les fraises rondes, en

particulier, aplanissent et polissent, à souhait, les petits amalgames: elles s'insinuent bien dans tous les sillons et sinuosités de la restauration.

VERNIS PROTECTEUR: On prévient un grand nombre d'ennuis en insérant une substance protectrice sous toute restauration superficielle comme profonde. Si la cavité est superficielle une application de phénol et d'un vernis protecteur donne l'isolation suffisante; dans une cavité profonde, une couche de ciment élimine les réactions thermiques à la suite de l'insertion de l'amalgame. Le carbo-eugénol peut aussi être employé, mais doit être appliqué à deux séances différentes.

OUVERTURE DU SINUS: Une perforation du plancher du sinus au cours d'une extraction se refermera d'elle-même par granulation, si on la traite convenablement et si on la laisse tranquille. Pourquoi s'énerver et soumettre le patient tout de suite à un oto-laryngologiste!

PEAU DE MAINS RUGUEUSE: Des mains rouges et rugueuses sont une mauvaise réclame pour un dentiste. Une solution faite d'une partie de witch hazel, une partie d'eau et une partie de glycerine tient les mains douces et belles. Tenez cette solution près de l'évier dans une bouteille fermée par un compte-gouttes. Après chaque lavage de mains, prenez quelques gouttes de cette solution et enduisez—en vos mains.

PATE OXYDE DE ZINC ET EUGENOL: On peut préparer à l'avance une quantité appréciable de pâte à base d'oxyde de zinc et d'eugénol, qui se conservera dans un état plastique, si on observe les précautions suivantes:

Utiliser un flacon de verre à large bouchon de verre, ce dernier doit être creux.

La pâte sera placée à l'intérieur du bouchon. Dans le fond du flacon on déposera quelques cristaux de chlorure de chaux, dont l'action hygroscopique éliminera l'humidité dans le flacon, empêchant ainsi le durcissement de la pâte.

DESTRUCTION DES TACHES PROFONDES DE L'EMAIL, par J. Wilson Ames, J.A.D.A., octobre 1937.

Peroxyde d'hydrogène à 100% 5cc.

Ether 1 cc.

1o—Placer la digue pour isoler les dents à détacher.

2o—Bien protéger les tissus mous autour de la digue avec des compresses, la solution étant caustique.

3o—L'opérateur doit mettre des gants de caoutchouc.

4o—Il faut protéger les yeux et le nez du patient.

5o—Un rouleau de coton recouvrant les dents à soigner est attaché à celles-ci.

6o—La solution est bien agitée, car les liquides ne se mélangent pas.

7o—Le rouleau de coton est saturé de la solution.

8o—Chauffer lentement et progressivement le coton de façon à augmenter l'action de la solution, au moyen d'un instrument métallique, pas trop cependant, pour ne pas attaquer la pulpe.

9o—Saturer le coton à nouveau lorsqu'il est sec.

10o—L'opération dure une demi-heure.

Il est prudent de prendre une photographie avant et une autre après.

L'émail sain est plus blanc après l'opération, mais après quelques jours il redevient normal.

POUR EVITER LA DEFORMATION D'EMPREINTES D'INCRUSTATION: Ne pas introduire la tige de coulée chaude dans la cire, mais laisser tomber une goutte de cire collante à l'endroit où la tige de coulée sera placée et ensuite y coller celle-ci.

R. Blanco, Tribuna Odontologica, Buenos-Aires.

*Gérard de Montigny.*

## *Le Congrès*

Le V congrès des Dentistes de langue française de l'Amérique du Nord aura lieu les 8, 9 et 10 juin 1939.

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## *Nouvelles*

Nous avons le plaisir d'annoncer que le docteur Josse De Wever a épousé le 10 décembre Mlle Jeanne Desjardins d'Outremont. Aux nouveaux époux nous souhaitons bonheur et postérité.

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Il nous fait plaisir d'offrir nos plus sincères félicitations à nos confrères Anglais: le Doyen de la Faculté Dentaire de McGill le docteur A. L. Walsh qui a obtenu le titre de F.A.C.D., et au docteur F. W. Saunders qui fut créé F.I.C.A.

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**Histoire sans paroles**

**1ère scène**

# *In Memoriam*

It is with the greatest regret that the profession of dentistry in Canada learns of the death of William Hugh Woodrow, an outstanding member of our profession and a prominent citizen of the city of Brockville.

Dr. Woodrow had enjoyed good health until quite recently. About two weeks before his death, he contracted a cold, which developed into pneumonia, but the crisis was passed and, although his condition was serious, it was thought that he would recover. However, he suddenly became worse and complications developed, which resulted in his death on Saturday, February 25th, 1939.

Dr. Woodrow was born at Aurora, Ontario, in 1876, son of John Larkin and Jane Norman Woodrow. He was educated in the public schools and graduated from the Faculty of Dentistry of the University of Toronto in 1898. He practised in Whitby for a few years but in 1903 went to Brockville, where he has since resided. He took an active part in the affairs of his community, having served as councillor and for many years clerk of the Session of First Presbyterian Church. He acted on many different boards and was at all times willing to devote his services to the welfare of his community. He was a member of Salem Lodge, A.F. & A.M., and a Past Principal of the Chapter. He was a member of the Brockville Club, the Brockville Rowing Club and the Brockville Golf and Country Club.

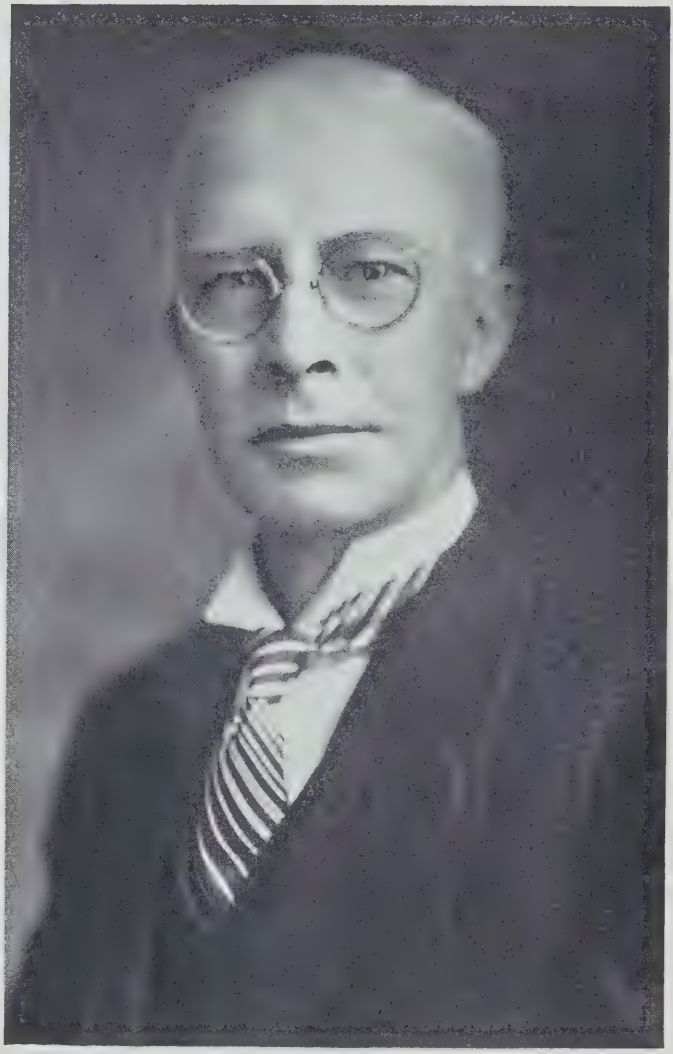
He was very prominent in the different organizations pertaining to the advancement of dentistry. Dr. Woodrow was a Past President of the Eastern Ontario Dental Association, Past President of the Ontario Dental Association and at the time of his death was Vice-President of the Board of the Royal College of Dental Surgeons of Ontario, as well as the Senior Delegate from Ontario to the Canadian Dental Association and a member of the Finance Committee of the same body.

The funeral services were held in First Presbyterian Church and the position Dr. Woodrow occupied in his community was quite evident by the large number who attended to pay their respects to his memory. A private service was held previously at his late residence, which was attended by his close friends and dental confreres.

Surviving are his two sons, Norman M. Woodrow of New York City and Hugh J. Woodrow of Brockville. Mrs. Woodrow predeceased Dr. Woodrow in November, 1936.

Dr. Woodrow lived a very full and active life. He was particularly interested in the advancement of his chosen profession and was an ardent supporter of national dentistry. His character was based on truth and honesty. Understanding human nature, he was tolerant of and sympathetic to the shortcomings of his friends. All who knew him loved him and were better for having known him. To his sorrowing family and friends the Canadian Dental Association extends its deepest sympathy.

STEPHEN A. MOORE.



WILLIAM HUGH WOODROW, D.D.S.

Vice-President Canadian Dental Association for Ontario and member of the Executive and Finance Committees, Vice-President Royal College of Dental Surgeons, Past President Ontario Dental Association, Past President Eastern Ontario Dental Association.

*Died February 25th, 1939.*

The Journal
OF THE CANADIAN DENTAL ASSOCIATION

VOL. 5 TORONTO, MARCH, 1939 NO. 3

# Canada and National Unity

by STEPHEN LEACOCK, Montreal, Quebec.

JUST now the uppermost topic for our banquet speakers and luncheon talkers is the need for Canadian unity. Each speaker swears it's the one and only thing that can save us; the audience applaud vociferously and then they all go away and forget it. But smoke at least means fire. Just now in Canada the chief danger for our future lies in the increasing separatism of the provinces. When this topic comes up for discussion the lawyers immediately muddle it in a cloud of legal clauses, as a cuttlefish muddles the water, and the local politicians, who grow fat on separatism, urge that provincial existence is at stake without it; so that plain people are lost in the attempt to grasp the matter.

Let me try to set forth for such plain people exactly where our country stands in this connection. Here we are with a stretch of territory of resources of what one might call continental size—3,000,000 square miles—the same might be said more or less of Europe, of Australia, or of the continental United States. Keep it all together and it's all right. Divide it up and it's all spoilt. There is no room left in the world now for little states. Germany of the middle ages had 300 little states in it — princes, bishops, knights, free cities—all sorts. They had a good enough time fighting one another and making it up again. That wouldn't do now: they'd be ironed out flat. Modern war mechanism needs a huge unit. Even states like Denmark, Portugal or Holland can only survive on alliances and balances. They *are* where we would be if we let our Dominion slip. We have got—till we lose it—all that other people long for and we are too silly to realize it.

Look back and see how it came about. This Dominion originated in a set of fragments none of which seemed much good for anything — not as compared with real places like Santo Domingo, Guadeloupe, Goa, and Molucca. Nova Scotia seemed fit only for Scotchmen—they'd seen worse: New Brunswick, a bush settlement for Tories: Quebec, a few acres of snow to be traded back to France: Ontario, a home for exiled Yankees re-named Englishmen: the North West, a huge, cold preserve for beaver skins: British Columbia—too far away from all the world to mean anything.

Fate kept the whole place empty till two generations ago. Then things began to happen. The United States expanded, flooded west, cracked, broke into Civil War—and it began to look as if, in the course of expanding and quarrelling, the United States might take Canada. This was too much for the English: till then they hadn't thought much of Canada.

But when it was a matter of the United States taking it, that was different.

So the English government became prime movers in making our Confederation of 1867. They coaxed in Nova Scotia by guaranteeing a railway; they threw in all the Hudson's Bay Territory and with the aid of the wider-minded Canadians, they staked out on the map a commonwealth that had more hope in it than anything ever created on such a scale before.

The 'constitution' they gave it was not called a constitution: the word was too American: it was called a British Statute and had all the water-tight copper-bottomed excellence of a British Act of Parliament. You knew just what it meant and if it was in any way doubtful you need only pass another act and set it straight. Of the purpose of the British North Amercia Act its makers had no doubt. It was to create a national unit. There was to be none of that 'State's rights' which had shipwrecked the American republic and taken four years' war to remedy. The Dominion had all the powers of government except those expressly given to the provinces. It had full power of taxation by any mode or system, full power over commerce, over money, banking, legal tender—the whole scope of economic life. To any one but a lawyer the meaning was, and is, as plain as day.

Indeed at the time the only trouble seemed that the provinces would be too weak to stand. Their customs taxes gone they had to have subsidies. The Dominion held them up as best it could. Meantime with the opening of the West, the Dominion government, controlling immigration and commerce, filled the whole picture. Politics centred at Ottawa. The little parliaments at Toronto and the provincial capitals looked like town councils.

As usual the unexpected happened. Huge new forms of revenue opened up for the provinces. The motor car and all that went with gasoline became its mark: inheritance taxes, as the country grew rich, piled up provincial receipts: the unforeseen growth of franchise corporations brought a new opportunity for franchise taxes. The provinces, owning the soil, fell heir to all that mining meant. The provinces without mines clamoured to have their public land "given back": they got it with compensation for the Dominion having used it.

Thus the provinces began to turn to little kingdoms,—with control of water and soil and mines and licenses,—of economic life. The revenues, for the larger ones, rose to over $50,000,000 and their capital outlay and debts in proportion: where the provinces stopped the municipalities, their legal offspring, began. Provincial politics began to offer a new field. The drift to Ottawa ended. With the era of the Fergusons, the Taschereaus, the Hepburns and the Duplessis, the Canadian provinces began to look like the Saxon Heptarchy, each kingdom with its little king.

None of this would have mattered so much if it had not been for the action of the law courts which set themselves to reinterpret the plain intention of the British North America Act and extend new power to the provinces and set new inhibitions against Ottawa. The lead was taken here by the Judicial Committee of the Privy Council in London, our last court of appeal. The Privy Council here plays the part of the Wicked Old Fairy who came out of the cupboard, just when everybody was happy, and put the Princess to sleep for a hundred years. On the strength of a few clauses which mean God knows what, and especially of a clause which assigns "property and civil rights" to provincial jurisdiction, the court has practically undermined the plain intent and meaning

of the original act by interpreting it to death. The Dominion has thus lost the plenary power over commerce, money, business and taxation which it was meant to have. It cannot pass social, remedial and labour legislation,—the most pressing need of every national government. These things cannot be passed nine times over in nine provinces, so they must go by the board. The Dominion government, robbed of its power, must fold its hands and go to sleep. The Privy Council is the Wicked Fairy and Mr. Mackenzie King is cast for the part of the Sleeping Princess. The sleep must last, till some bold Prince Charming can cut his way through the thornwood that is growing up around the Capital.

Something ought to be done about the Privy Council. I'd like to summon it before the Bar of the House of Commons,—isn't that what they do in England?—anyway to summon it to a bar, and give it a drink and ask it to be reasonable, and not break up our country into nine Czechoslovakias. Meantime we just drift on. The Provinces won't, the Dominion can't, and the people don't know how. I've no doubt we shall "muddle through": we learned that from England. But for Heaven's sake let's get the muddling started anyway.

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# *Is The Dental Health Educational Program Worth the Money?*

by R. D. THORNTON, D.D.S., Toronto, Ontario.

IN commerce a salesman's value to his employer may be quite accurately evaluated in dollars by his sales and his expense sheet. But the efforts of the best salesman will, in time, encounter resistance if the goods offered are not of high quality. The men who are in charge of the manufacture of these goods or who buy them from the manufacturer to be resold by the wholesaler or other merchant are responsible for the quality. How much more difficult it is to correctly estimate the worth of the buyer to his firm! Similarly, the results obtained from most forms of advertising can only be reckoned approximately. Allowance must be made for many factors that cannot be controlled, consequently, it is impossible to figure the exact relation existing between expenditures and results. In welfare work, such as community fund campaigns, statements are frequently released showing that a relatively small percentage of the funds subscribed is used for administration. Usually, these statements fail to take into account the many hours of time and effort given gratuitously by hundreds or even thousands of people interested in the welfare of their fellowmen.

This preamble is intended to draw attention to certain phases of the Dental Health Educational Program of the Canadian Dental Hygiene Council, which was started in Ontario in the autumn of 1935 under the auspices and with the support of the provincial Departments of Health and Education. The program has been

promoted and assisted, financially and otherwise, by the Public Dental Health Committee of the Ontario Dental Association and the Board of Directors of the Royal College of Dental Surgeons. The field work has been done chiefly by the Field Secretary of the Canadian Dental Hygiene Council with the co-operation of the school inspectors, principals and teachers, medical officers of health, nurses, town and city councils, local boards of health and education, newspapers, representatives of men's service clubs, women's organizations, Canadian Life Insurance Companies and many other groups. The expenditures reported in this article represent a relatively small part of the cost of the program. The assistance of the provincial government in printing mouth inspection charts and booklets to disseminate knowledge concerning the development and preservation of the teeth has made possible a much greater extension of the work than could otherwise have been undertaken.

Since its inception, the program has been conducted in 33 towns and cities and the rural portions of 41 public school inspectorates. The campaign in progress this winter is expected to add 26 towns and cities to this list. In these urban centres approximately 120,000 children in the public, separate, and high schools have heard, or will hear, an interesting address on the importance of sound, healthy teeth and how to develop and care for them. The aggregate population of these places amounts to about 625,000. In practically all these municipalities a free mouth inspection has been made available for the public and separate school children through the generosity and co-operation of the local dentists.

In the rural school program, booklets have been distributed to about 105,000 children and an examination chart given to each child with the information that he or she may have a free mouth inspection upon presentation of this chart to a local dentist who has previously advised the Central Committee of his willingness to co-operate in this effort. Nearly 4000 teachers in rural schools have been reached in this way and probably 200,000 or more adults and other children in the homes have had the subject of dental health brought to their attention.

The newspapers have played an excellent part by conveying to their many readers some idea of the importance of this work and the subject matter of the field secretary's addresses. City dailies have given valuable front page space. In some cases the campaign has been announced in large type headings across the entire front page. The weekly publications have also given very generously of their most important columns. It would be very difficult to even conjecture the number of people who have been reached by this means and the effect that newspaper reports would have in impressing upon their minds the importance of clean, healthy mouths.

The support given by the Canadian Life Insurance Officers Association through the Canadian Dental Hygiene Council is also very significant. The financial assistance given by the Association year after year for educational work in the field of dental health forms one of the finest tributes that can be paid to dentistry.

About sixty school inspectors have taken part in the program to date, and probably twenty more will assist in this year's work. In every municipality where a campaign has been conducted, the Medical Officer of Health gave leadership and direction.

Very few reports have been received to date from the mouth inspection in connection with the rural campaign, but the records returned from many urban centres indicate that a very thorough sur-

vey was made. The percentage of children in these places, having defective teeth, ranges from 82.9% to 94.7% with an average of approximately five defects per child.

Summing up briefly it may be conservatively stated that from the autumn of 1935 until the spring of 1939 a free mouth inspection will have been made available to 200,000 school children. Two hundred and twenty-five thousand children and 7500 teachers will have received educational booklets regarding the development and preservation of the teeth. One hundred and twenty thousand children and 3500 teachers in the urban public, separate and high schools will have heard an address on this subject. Over 600 addresses have already been given and this year's program should add 200 more to that number. Audiences range in numbers from very small groups up to 1300. Over 600 dentists have co-operated and it would probably not be any exaggeration to state that one million people in Ontario have felt the influence of this program.

From 1935 to 1938 inclusive, the Central Committee in charge of the work spent $3216.18. Expenses for the present year's effort are estimated at $1100.00. This does not include expenditures made by the Department of Health for printing charts, booklets and other items, nor any sums paid by the Canadian Dental Hygiene Council for the salary of its Field Secretary, and other amounts paid directly by them. The above amounts have been provided by the Board of Directors of the Royal College of Dental Surgeons, the Canadian Dental Hygiene Council, and the Ontario Dental Association.

Reference should be made to many other phases of the program but time and space are limited. In conclusion, may we ask—What is your answer to the caption of this article? "Is the Dental Health Educational Program worth the money?"

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## *Conventions*

Seventy-first Annual Meeting of the Dental Society of the State of New York, Hotel Pennsylvania, New York City, May 9-12, 1939.

Western Canada Dental Society, Winnipeg, May 29-31, 1939.

Seventy-second Annual Convention of the Ontario Dental Association, Royal York Hotel, Toronto, Ontario, June 5-7, 1939.

Dentists from the United States and from parts of Canada outside of Ontario will be welcomed.

Fifth Convention of the French Speaking Dentists of North America, Mount Royal Hotel, Montreal, June 8-10, 1939.

Annual Meeting of the New Brunswick Dental Society, Moncton, probably in July.

American Dental Society of Europe, Lausanne, Switzerland, August 5-9, 1939.

K. C. Campbell, Secretary, 88 Portland Place, London W.1., England.

Australian Dental Congress, Melbourne, August 21-26, 1939.

American Dental Association, Milwaukee, Wisconsin, July 17-21, 1939.

Fifteenth Annual Fall Clinic of the Montreal Dental Club, Montreal, September 27-29, 1939.

# *Office Practice and Management* *

by MAURICE E. PETERS, D.M.D., Boston, Mass., U.S.A.

IT IS indeed a pleasure to return to New Brunswick, the province of my birth, to discuss with you some matters pertaining to the practice of dentistry, a subject in which we are all so keenly interested.

Since arriving in Fredericton, it has been suggested that I digress somewhat from my original text to touch upon some more pertinent problems, particularly the problem of preventive dentistry. The entire program and scheme of modern dentistry should be built around that one word, "prevention." The public should realize that it is better to spend smaller sums on prevention than larger ones to repair the ravages of neglect.

What is preventive dentistry? It was well defined a short time ago as "the dental hope of the future." Though we must admit that true preventive dentistry does not, as yet, exist, as we cannot prevent all caries and periodontal disturbances, yet we are in a position to prevent all serious difficulties, provided we see our patients frequently, examine their mouths carefully, and correct defects while they are still small. This, it seems to me, is the only worthwhile phase of dentistry if we are to achieve our professional goal. Some of your members have told me that patients here do not realize the value of preventive dentistry; they do not want preventive dentistry. Therefore, I must ask myself and ask you the question: Do YOU realize the value of preventive dentistry? Do you attempt to tell your patients about it? What can be done here to advance the cause of preventive dentistry? Do you have school dental clinics? Can the society do something with the Commissioner of Public Health or the Commission of Education to advance the cause of preventive dentistry? I understand dental examinations are made in your schools, but by a medical man. Why? Does he know the patients' teeth? Is he competent to examine the mouths of patients? That should be the dentist's job, and the dental society should have sufficient influence and sufficient ambition to see to it that the dentist does it. If we start educating the children, before many years our entire population will have the desire for preventive dentistry, which, at present, you tell me is lacking here. The children will also take the idea home to their parents and the movement should grow.

What is commonly called operative dentistry might well be termed preventive dentistry, because, if properly practised, it can prevent practically all serious diseases of the teeth and gingival tissues; if properly practised, it would do away with the need for practically all "specialties" in dentistry except orthodontia. Operative dentistry properly practised can and does do away with the loss of pulps, the loss of teeth and the need for the most deep seated periodontal treatment. But remember, this type of dentistry requires frequent visits on the part of the patient, the most careful type of examination by the dentist, and restorations properly made when restorations are necessary. It requires eternal vigilance about the gingival tissues and requires ability on the part of the dentist to impress upon his patients the fact

* Read before the New Brunswick Dental Society, July, 1938.

that about 90% of the job of keeping their mouths healthy is their's and 10% his. If we are successful in having patients co-operate and if we are conscientious and skilful in our work, most patients can be carried through life without the loss of a pulp or a tooth unless these are caused through unusual systemic disease or accidental trauma.

What constitutes success in dentistry? First, we must do our dentistry in such a way that it commands the respect of the public and our professional confrères and, secondly, we must receive from it a sufficient financial return to care properly for our families and provide some security for our old age.

### Getting A Practice

Years ago, Emerson wrote the following lines: "If a man can write a better book, preach a better sermon, or build a better mouse-trap than his neighbor, though he make his home in the woods, the world will make a beaten path to his door." In dentistry, one must not take this too literally. We must not feel that because we can do skilful dentistry we do not need that intangible something called personality.

It has been said that in business 85% of one's success is due to personality while only 15% is due to ability. If this is the case in the business world, it must be doubly true in the professional field. Be a stickler for the 15%, but what about the 85%? Patients know so much more about people than they do about dentistry that it is exceedingly important for them to like you and your professional surroundings if they are to remain your patients.

Two of the most capable dentists it has been my privilege to know have been utterly unable to conduct a successful practice. One is so lacking in personality that when he enters a room, one feels as though someone has gone out, while the other is so forceful in personality that he lays down the law to, and forces his ideas upon others in such a way that they prefer to become patients of some other dentist whose personality is more agreeable.

What constitutes professional personality? Your office, location, its equipment, its furnishings, cleanliness, and homelike appearance; the way you greet your patients; your promptness in meeting your appointments; the kind of assistants you have; perhaps, even the way you part your hair; how you handle your patients' lips and mouths, whether you are rough or brutal, or seemingly hurt too much; how you handle your instruments and 101 other things which go to make up personality. Showing a genuine interest in your patients is exceedingly important. You are interested in yourself; a boil on the back of your own neck is much more important to you than the war in China. Patients are all interested in themselves and appreciate your interest in them. Give it whole-heartedly and they will never forget you. Remember the 85%! It is not the dentistry that counts the most in having them come to you, like you, and remain your patients, but what you serve with it.

What about your dental assistant? Remember, she reflects your personality in the mind of your patient. Is she a good one? Does she work *with* you or *for* you? You hire her and pay her. Do you train her? What can she do? Answer the telephone? Make appointments? Perhaps place a towel over the patient when seated in the chair? If that is all she can do, you don't want her and you had better dismiss her, but first of all be sure whether it is her fault or yours. What do you want her to do? Decide that for yourself, train her to do it and write it down. If you outline her program and have it written

in a small book, it is always available for her to refer to and if it should become necessary to change assistants, an outline of her work is all ready for the next one to study, and at least, she can be partially ready for her job before she starts to work. If you have not made the most of your assistant, you are making one of your greatest professional mistakes. Speaking of mistakes, Dale Carnegie said that he always carried in his pocket a paper on which he jotted down each mistake as he made it, and on returning to his office filed these papers, and he frequently turned to this file to familiarize himself with his mistakes so that they would not be repeated. Let us profit by this advice.

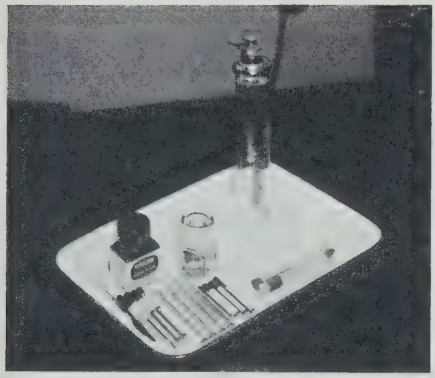
An assistant can be a receptionist, secretary, housekeeper, laboratory assistant, operating room assistant, x-ray technician, and teacher of oral hygiene, teaching patients, particularly children, through some form of visual education and tooth brush drills.

As a receptionist she should appear glad to see the patient, but not too glad. She should make the patient realize that she is interested in him, but do not overdo it to the extent that the patient feels the interest is not genuine.

As a secretary she should have a pleasing manner. She should be able to make appointments in a way that keeps patients happy even though she cannot always give them just the hours they wish. It is frequently difficult or impossible to give patients just the hour they wish, but she should not tell them, "I can't possibly give you that time" but say, "I am sorry, the Doctor is engaged at that time, but he has certain other hours free." She may also suggest that she will try to find out whether the patient coming at the hour desired is willing to exchange it for another free hour and in such a way have them realize that everything is being done which can be done, and even if they don't get just the hour they wish, they go away happy, realizing a conscientious effort has been made to accommodate them. Some patients are disagreeable, but the secretary cannot indulge in the pleasure of getting cross. She must do for the patient just what you would do in attempting to keep the patient happy. In the laboratory, lady assistants can be very excellent technicians in plaster work or inlay work, and they should be particularly competent in porcelain work.

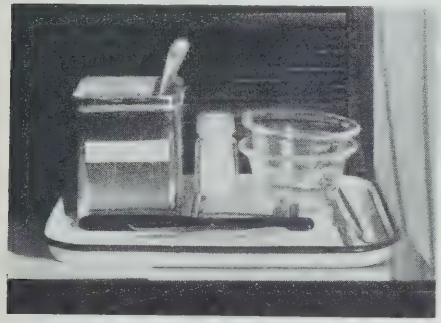
An assistant who is not a good housekeeper is usually not a good assistant. The housekeeping of an office is exceedingly important. The office should always be clean, the reception room homelike, and the operating room immaculate. The shop - worn stories of old magazines on the reception room table are all too true. Remember, there is nothing more out-of-date than yesterday's newspaper, so let our offices and equipment and literature have an up-to-date appearance.

In the operating room we all undoubtedly handicap ourselves by not making great use of our assistants. A surgeon does not think of operating without a nurse if it is possible for him to have one. In our dental operations it is possible for our assistants to be fully as valuable as the surgical nurse is to the surgeon. Most of us use them for mixing fillings, but for very little else. Try sometime having your assistant help you in the operation of placing a rubber dam, placing and malleting gold foil, keeping your amalgam plastic until ready for use, retracting obstreperous tongues or lips and passing you instruments as you need them. Have her keep all of your supplies ready for use, gutta percha cut in suitable sizes for temporary fillings, wedges cut for wedging matrices, wax-bites made ready for use, matrices cut for inlay impressions, discs of various



Novocaine Tray

*Syringe in Alcohol—Hubs in Alcohol—Long and Short Needles, each in sterile tube, Novocaine Carpules, Alkalinizing Solution, Topical Anaesthetic, Swabs and Pliers.*

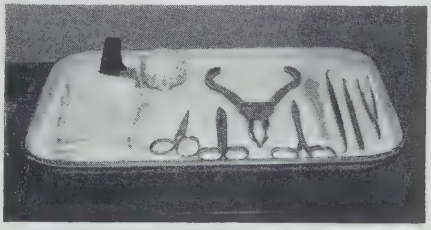


Plaster Impression Tray

*Can of Plaster, Plaster Bowls, Plaster Spatula, Salt, Vaseline, Scaler for weakening plaster before breaking, Plaster Breaking Spatula, Pliers.*

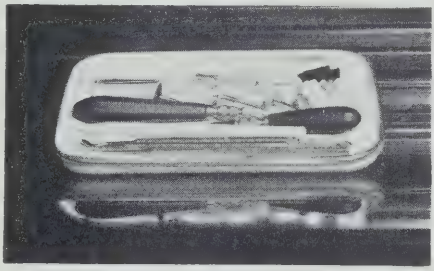
sizes already mounted on mandrels, and have her arrange your instruments in suitable groups so that when performing one operation everything needed for that particular operation is in one place.

It is exceedingly convenient and saves a tremendous amount of time if everything needed for a particular operation can be in one drawer or on one tray. In injecting novocaine, for instance, if the syringe, needles, novocaine carpules, topical anaesthetic and swabs for applying it, are all on one tray, it expedites the operation. In taking a plaster impression let us have our plaster, plaster bowls and spatula, our accelerator, if we use one, and in short everything we are to use for a plaster impression, on one tray. This same scheme of systematization can be applied to practically every operation, such as a tray for rubber dam, and all instruments used in conjunction with it; a tray containing everything which may be used in setting a crown or gold inlay; viz., stones, discs, polishing agents, carbon paper cut in suitable sizes, burnishers for spinning margins, and plastic instruments for carrying the cement into the cavity; a drawer or a tray containing everything which you can



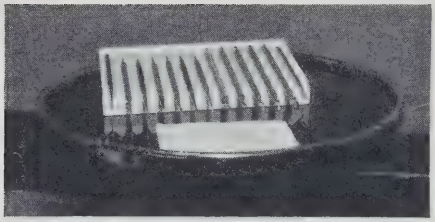
Rubber Dam Tray

*This tray contains everything the assistant handles in the operation of placing or removing Rubber Dam. The rubber dam itself, Clamps and Rubber Dam Punch. All selected and used by the doctor are kept in the main cabinet.*



Inlay Setting Tray

*Inlay in model. Glass trays containing Fissure Burs, Stones, Discs, Carbon Paper. Stone, Cuttlefish Disc, Rubber Polishing Wheel, Mounted Burnishers. Plastics for carrying cement into cavity. Pointed instrument for removing gutta percha from cavity.*



Amalgam Instrument Tray

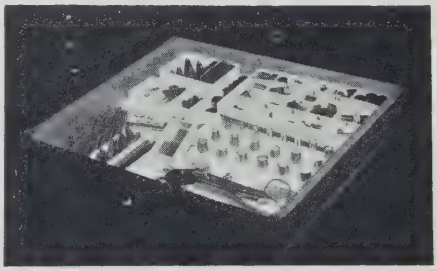
possibly need in taking an inlay impression and bite; a tray or drawer for prophylaxis; a drawer for all instruments needed for jacket crown preparation, and so on. You can carry the principle as far as you wish. It may mean a few extra instruments, but the cost of the additional instruments is certainly compensated for by the ease with which you operate and in time saved. Patients are impressed by system. They realize that you are saving their time, and that if you have worked out a system in your operating you certainly know what you are about. It gives them a distinct feeling of confidence.

In my office, my operating instruments are all marked and numbered in such a way that I am able to ask for any one by name and number and have it passed to me when I wish to use it. When another instrument is needed the assistant takes one instrument and places the next one in my hand so that I am able to continue the operation without looking away from the tooth on which I am operating. The instruments and the drawers are marked in such a way that even a new assistant is able to place the instruments, after they have been sterilized, in their proper places and to get them when asked for without any loss of time.

While speaking of instruments I would like to refer to the names that have been given them by their makers: hatchets, hoes, chisels, spoons, etc. Think of the patients' reaction if you ask your assistant for a certain hatchet or a certain chisel. If we do adopt a system of having our assistant pass us instruments we should certainly do something about changing their names, or asking for them by some other name than one which would alarm the patient. It has been my custom, instead of referring to an instrument as a hatchet, to refer to it by the letter "H"; instead of asking for a chisel, to refer to it by the letter "C". It is possible in this way to get the instruments I wish without unduly alarming the patient.

### Practice Building

All young dentists after graduating from dental college are confronted with the problem of building a practice. Lucky is he, who is able to associate himself in the office of a practitioner who may have some overflow of practice, and who is able to advise him as to how he should conduct himself in the development of his practice, and to give him the benefit of his mature judgment in handling patients. For those who start by themselves there are several ways of getting a practice. First, there are one's



**Impression and Bite Drawer**

*Wax Bites with No. 60 Tinfoil between two thicknesses of S. S. White Base Plate Wax. Some wax bites made with three thicknesses of wax with No. 60 Tinfoil. Modelling Compound Cones of various sizes. Compound Sticks. Vaseline for lubricating hot compound. Inlay Wax—Blue and Green. Steel Matrices for impressions. Copper Bands—Band stretching pliers—Scissors for cutting bands—Stones for trimming and file for smoothing edges.*

friends. It is probably the worst type of practice and friends are the hardest patients upon whom one can work. There are clubs of all kinds where the young dentist can become acquainted with people, and in his community life he may make friends and patients; but he must conduct himself in such a way that his newly made friends and acquaintances respect him, like him, and think he is probably a good dentist.

If the young dentist sits in his office and waits for patients to come to him he is likely to sit for a very long time. He must go to the community; the community will not come to him. One of the best ways of having people become interested in you is to become interested in them. People like themselves, and if you show an interest in them and their affairs they are much more likely to become interested in you and your practice, than if you start by trying to get them interested in you.

In cities where there are men practising in various specialties of dentistry, they frequently have the opportunity to refer patients, but no specialist is going to refer patients to a man in whom he hasn't complete confidence. Therefore, if, when you refer your patients to a specialist, he is not able to see that you have done well for the patient, you need never expect the specialist to refer patients to you.

Patients are frequently referred from dentists in other cities. Naturally they will not refer patients to you if they do not know you. How can you have them know you? You have all had the experience of having patients from some other city come to you for some emergency work. Have you written the patient's dentist about it? It is an exceedingly valuable practice builder to do so. Make it a habit to write the patient's dentist telling him that you have seen his patient, what condition you found and what you did for him, and express the hope that you have anticipated his wishes. He will never forget you and if some other patients of his are coming to your city he will undoubtedly give them your name. You will find over a period of years that this does a lot in developing a practice. You should all be interested in dental society life. Attend your society meetings; profit by them, and remember, you never get any more out of a society or anything else than you put into it! You all have some ideas which are good. Write them down, perhaps in the form of a paper and present it to the members. Each one of you can do something better than somebody else. Make it up in the form of a clinic. Don't hesitate to give clinics. Your profession will admire you for it and you will certainly help yourself in doing so.

Medical references are exceedingly important. Many practices have been built by references from medical men. One of my friends, who has several associates, made it his policy to associate regularly with medical men. He lunched with them, he dined with them and certain evenings he invited specialists in various branches of medicine to talk with him and his associates about the relationship of his work to theirs. Naturally when these physicians had patients for whom they wished some dental service rendered they realized that he knew their attitude about their work and consequently referred their patients to him.

Another friend, who is an ardent fisherman, joined several fishing clubs. He invited medical friends to join him on fishing trips. He became their close friend in that way, and naturally, they referred patients to him. His practice now is made up almost entirely of patients referred to him by these medical men. Other medical contacts are very important. Every one of your patients

is a patient of some medical man. You see things in his mouth which the physician has not had an opportunity of seeing. Do you write him about them? Do you consult him about your cases for their benefit? Try it, and see what a harvest you reap in that way! One important thing in developing a practice is being "on the job." It is very easy to stay away from your office when you have no appointments, but an unexpected patient is apt to drop in at just that time. It does not take very many patients to make a full practice, so make it your business to be there when the unexpected patient comes. It won't be long before you have plenty of practice.

### Keeping A Practice

Getting a practice is difficult, but much more difficult and perhaps more important is the matter of keeping a practice. In my opinion one of the most vital factors in maintaining a practice is a full realization of the value of preventive dentistry and teaching it to your patients. Another very important factor in maintaining a practice and preserving patients' teeth is careful examination. It is appalling to see the patients who are sent from dental offices, with the understanding that their mouths have been put in satisfactory condition, and find in these mouths most unhealthy gingival conditions, defective restorations, and frequently very deep and dangerous caries. Frequently dentists tell us that they are not busy, and at the same time fail to find and correct numerous defects in the teeth of their patients for the correction of which the patients have come to them.

What is the important thing in making a complete dental examination? It seems to me that the most important thing is THE WILL TO FIND DEFECTS. With good explorers available and x-ray examinations possible, it seems that nothing but a lack of desire to find glaring defects can account for the failure to do so on the part of so many dentists.

In speaking of explorers, most of those sold by dental manufacturers are very poor. Let us be sure that our explorers are properly shaped, well tempered, and pointed to, at most a No. 36 gauge.

In offices where hygienists are employed it is quite fitting that the hygienist should make an examination following prophylaxis, but for the dentist to allow the patient to leave his office without checking the examination is a very great mistake. I realize it is difficult at times to see all the patients who may go through the hygienist's hands and if the hygienist reports that the patient has defects needing correction and must return for an appointment, it may be permissible to allow the patient to leave without the dentist checking the examination, as he may do so when the patient returns for an appointment with him. If, however, the hygienist reports that the patient has no defects needing correction, it is important that the dentist should see the patient before he leaves the office.

### A Controlled Practice

I hear from my friends from time to time that business is "spotty." At times they are busy and at times they are not. If one has a sufficient number of patients, and it does not take many to make a full practice, it is possible through education of the patients and through proper conduct of one's practice to have a fairly even flow of patients through the office throughout the year. When a series of appointments with a new patient has been completed, the patient should be instructed in the value of prophylaxis and examinations. He should be impressed with the fact that the value

of dentistry is in direct relation to its continuity, and that practically no dentistry of a preventive nature is of value unless it is continuous. The patient should be told that YOU accept the responsibility for the welfare of his teeth, but if YOU accept the responsibility, YOU must also be responsible for the time when the patient should return. Tell the patient that you will send for him when you feel he should return, that patients are quite likely to forget unless they are reminded, and that your office system makes it impossible for you to forget. You will be surprised at the reaction of patients to this type of service. Try it, if you haven't. Most of my patients after I have explained the system to them leave with a smile and the following comment "That is wonderful, then I can just forget it and you will let me know when I should come back." If you have promised to send for patients at a certain time, be sure to do so. Remember the responsibility is YOURS. Different patients, when they receive a call to return for prophylaxis, react differently. If the interim has been a short one some will feel that it is much too soon for them to return, but you will be surprised if you run over a few weeks or a month beyond the time you have promised to send for the patient how many of them will be disgruntled because you have not called them soon enough. I have found it very helpful to have not only the date of the next appointment on the card that is sent to them, but also the date of their last prophylaxis and last examination. Three months go by quickly, and if the date of the last appointment is not printed on the card, some are liable to think that it is but a few weeks since they were in. New patients occasionally fail to keep their appointments. If you have such patients, and you soon learn to know their habits, it is well to have your assistant 'phone them a few days before the time of the appointment and inquire if the time reserved for them is convenient. This will avoid loss of time. Most patients I find are very conscientious about keeping their appointments systematically, and in our own practice we have very few to whom we have to telephone.

Perhaps you have some patients who come in at a wrong hour either prematurely or, worse still, an hour, a day, or a week late and tell you that this is the time of the appointment which was sent to them. It is most embarrassing to have this happen, and the patient always feels that your office has made the mistake, unless you can disprove it. All offices do make mistakes, but we have found that the system of duplicating all appointment cards by carbon copy, and keeping the copy in the office, and having patients if they arrive at a wrong time see the carbon copy, makes patients much less apt to make a mistake in the future. If the mistake has been ours, we are certainly glad to know it. It makes us more careful.

Do you write letters to your patients about themselves? Frequently we give them instructions in the office which they immediately proceed to forget. If you have written these instructions and have kept a copy of your advice to them, it is very helpful to you and the patient appreciates the thoughtful gesture. Some times you see children unaccompanied by their parents. Do you write to the parents about the child? We are making it a practice in our office to send birthday cards to children. We keep a complete birthday file and send cards at the proper time. It is surprising how children react to this. They return with a smile and you are their friend forever.

In personal contacts with patients, I think it is wise always to remember what the late Dean Smith once said: "Remem-

ber, your patients have legs and know how to use them." If you don't satisfy them with your dentistry or your personality is not pleasing to them, don't be surprised if they use those legs to go to some other office.

Don't argue with patients. Advise them to the best of your ability. Do your best for them, but don't antagonize them. Keep them happy if you expect them to continue as your patients. A successful wife always gets her husband to do just what she wishes him to do by having him think it is what he personally wishes to do. Try the wife's policy with your patients.

An interesting story is told about one of the world's highest paid executives walking through his industrial plant and finding three employees standing under a "No Smoking" sign, smoking cigarettes. He did not reprimand them for doing it. No! He walked over to them, addressed all by their first names, and chatted pleasantly with them for a while about the baseball game, and, on leaving, reached in his pocket and passed each a cigar, asking them if they wouldn't like to smoke it after dinner. They got his point, their feelings weren't hurt and they didn't smoke on the premises any more. The oldest rule of human relations is still the best: "Do unto others as you would that they should do unto you."

### Fees

The above quotation is too frequently changed to read: "Do others or they will do you." In our practices if we expect to be remunerated for our services, patients, through our actions, not words, should always be made to feel that we are attempting to do our very best for them and they will do their best in the matter of paying our fees. Don't tell them what a fine dentist you are! Make that obvious by your serious and careful service. They know without being told whether or not you are really interested in them and they compensate you in proportion. Be business-like with your bills. See that they are sent out on the first of the month and not in a haphazard way. If you are not business-like why should you expect them to be. Some cases are expensive. Do you attempt to budget them? It works very satisfactorily for many patients. I find it much better to do my own budgeting than to have a finance company do it for me. I also find that when patients have a large amount of dentistry to be done, it is possible sometimes to do part of the dentistry and allow some of the less urgent work to wait for a few months. This makes it possible for the immediate bill to be smaller than it otherwise would be, and makes the work seem less expensive to the patient. It is well, when possible, to budget the dentistry as well as the cost.

Sometimes patients complain about fees. A patient some time ago came to my office complaining about my fees and announced that he would have to find a less expensive dentist. I agreed to assist him in his effort, but told him that before I selected another dentist for him who could do his dentistry at the fee he wished to pay, I must first know how much he allowed in his budget for dentistry. He looked at me in amazement and said he guessed he didn't allow anything for dentistry. I pointed out to him that no matter how little a dentist charged, it would be too high to fit into his budget. He was a man of means. He really did not need to cut the cost of dentistry. He realized how wrong he had been in his attitude about the fees charged and he is still one of my best patients and most loyal "rooters," continuing to pay the fees originally charged. It is bad policy to talk fees over the telephone. Patients should be requested to come to the office for that

purpose. If the incomes of our patients have been diminished as most of them have been during our recent depression, it is not right that we should attempt to maintain our former fee schedule and exclude them from our practices. We must, at least, meet them half way. With patients who have been in my practice for some time, it has been my policy to express a willingness to go all the way; to do their dentistry for nothing if necessary; to impress upon them that their teeth are as valuable now, in a depression, as they were before the depression. I frequently ask them to name their own fees and offer to discount my charges in any amount they wish. And I have been surprised in meeting them that way, to find what a small discount they wish, when I have been willing to give a much greater one. Sometimes it is impossible to adjust your fees to meet the needs of your patients. Sometimes your associations must be severed. But if you and your patients part, be sure to part as friends, not as enemies. Some men in the city command much higher fees than others. After all, prices of dentistry are like those of all other commodities, subject to the law of supply and demand. If you decide to raise your fees, you must keep your ear close to the ground and be sure that the demand does not decrease unduly.

I cannot close without referring a little more to "system" in operative dentistry. One of my teachers a long time ago said that we got so used to our own inconveniences that we, by and by, began to think of them as conveniences. The usual method of keeping instruments and supplies scattered through cabinet drawers makes it necessary to open many cabinet drawers during a single operation. I watched a very capable operator a short time ago prepare a class 2 cavity for an inlay and take an impression and bite for same. In the process of this operation he opened and closed cabinet draws twenty-five times. Think of the confusion and loss of time which could have been avoided if all the instruments for the operation had been in one drawer or on one tray, and all the supplies for the impression bite in another. Opening two drawers would have produced everything needed for this operation and saved twenty-three useless motions!

Most cavity preparations are fundamentally alike. They differ only in size and a few small details, so it is possible to select a few instruments which you personally like for cavity preparations and keep them in one drawer or mounted on one rack or tray, thereby making all instruments needed in cavity preparations quickly and easily accessible.

Look over your own office and your operating methods and see in how many ways you can simplify your work and avoid confusion. Dental offices are usually equipped for and operated by one person, the dentist. He shortly employs an assistant, who may eventually learn to assist him in his operating, and the office which was designed and equipped for one person is usually not convenient, without some rearrangement, for two people. The instruments and supplies in the dental cabinet should be so arranged that all things which the dentist is to get from the cabinet are at one end, while all the things the assistant uses are at the other end. This arrangement will vary with different dentists' methods of operating, but such things as filling materials, cement slabs, spatulas, mortar and pestle, medicines, etc., should all be in a section of the cabinet which can be accessible to the assistant without conflicting with the dentist.

We have found it convenient to have two cabinets; one being specially designed for the assistant's use, and the main cabinet arranged for both assistant

and dentist. An adequate working table, or bracket table, in front of the chair seems to be vanishing from the modern dental office. This seems to be a great weakness in modern equipment. If instruments, required for use, are to be removed from cabinet drawers at the right of the chair and replaced, after use, on the cabinet top, this means an additional and unnecessary turning away from the patient each time an instrument is used.

It is indeed a great convenience and time-saver if all instruments needed are in front of the chair where they can be reached without turning around, and better still, if they can be placed in the operator's hand by an assistant without his even looking away from the tooth on which he is operating. This can be made possible only by having the assistant know the names of each instrument and having them in her cabinet where she can get them instantly when asked for. I have worked out a system which, for me, works very satisfactorily. Frankly, it was stolen from the golf club manufacturers. You all know golf clubs are now sold in sets instead of individually as they were in the past. They are now known by numbers instead of by names. Your driving iron of the past is now your No. 1 iron. Your old mid-iron is now your No. 2 iron and so on down the line. Any caddie can give you your No. 5 iron, but ask him for your "mashie" and you may get a mid-iron or a niblick. So it is with dental instruments. The assistant doesn't know them by their present names and probably never will.

I have, therefore, marked every explorer in my office with one ring around the handle. Spoon excavators are marked with two rings, hatchet excavators with three rings, hoes with four rings, chisels with five rings and plastic instruments with six rings. This is a very simple way of marking six groups of instruments, which are used in cavity preparation and in placing temporary fillings.

The drawers or compartments in which these instruments are kept are marked with similar markings so it is very easy for even a new assistant to learn them; to put them away in their proper places, and to get them when needed.

This, of course, isn't classification enough to make it possible for the assistant to select the particular chisel or spoon or plastic you may wish for any given step in your operation. Each group of instruments must be further classified. Let us take the chisel group, for instance. I have tried to classify chisels according to the purpose for which they are used. We have the moderately straight or biangle chisels; one bevelled to cut on the surface of the cavity toward the operator, its mate bevelled to cut on the surface away from the operator. This same bevelling principle applies to mesial marginal trimmers, distal marginal trimmers and enamel hatchets. This classification makes it possible to number each instrument in our chisel group from one to eight; Nos. 1 and 2, biangle chisels; No. 3 and No. 4, mesial marginal trimmers; No. 5 and No. 6, distal marginal trimmers and No. 7 and No. 8 enamel hatchets. They have been numbered in such a way that when operating on a mandibular tooth all chisels marked with odd numbers, 1, 3, 5, 7, cut on the side toward me or right side of cavity, while those marked with even numbers, 2, 4, 6, 8, are so bevelled that they cut on the left side of the cavity.

The same system is used with spoon excavators, which is the only other group of excavating instruments made in rights and lefts. As I regularly use only small instruments I have been able to classify my spoons into two groups. Those so

shaped that they cut toward the pulpal wall in distal cavities and those which cut toward the pulpal wall of mesial cavities. Again, as with the chisels, the odd numbers, 1 and 3 cut toward the right and the No. 2 and No. 4 toward the left side. Like all operators I have my favorite plastic instruments. It so happens that five of these seem to fulfil all of my needs, and these, besides being marked with six rings to classify them as plastics, are marked with numbers from one to five to designate the type of plastic. Hatchets and hoes I use so seldom that I have been satisfied to mark them only with the rings to classify their groupings, but not with numbers to classify their angulation.

Now, with the various groups of instruments being marked with rings to classify their group, and numbered according to the type of cutting and the part of the cavity in which they cut, I have been able to arrange sets of operating instruments, eight chisels, one hatchet, four spoons and five plastics (eighteen instruments) which fulfil all my needs in preparing cavities for gold foil, amalgam, restorations, or for inlays, and placing gutta percha in the cavities after the impression and bite have been made.

A slotted rack, of the wash board type, each slot being marked for the instrument it should hold is kept mounted on the assistant's cabinet and a similar rack with no instruments in it is kept on the bracket table in front of the chair. While any operation is being performed the assistant stands on the left of the chair, between the chair and her cabinet, and as the operating instruments are needed they are passed to me and when used are placed by her in their proper slots in the rack on the bracket table.

This system makes it possible to get instruments quickly and without opening drawers and looking through a mass of instruments for the one desired; and makes it possible always to know where an instrument is after it has been used and to maintain an orderly system in operating.

When the operation has been completed the used instruments in the rack on the bracket table go to the sterilizer and the rack on the assistant's table is filled from the refill drawer in her cabinet which contains several sets of instruments arranged in the same order as in the rack above.

This is presented not as *the* system, but as *a* system which to me has been a wonderful help. It is not presented with the thought that you should or will adopt it, but simply as a fundamental basis from which you may all start to build some system, your system, which will satisfy your needs, but let it be a system.

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*A hurried life is a wasted one—and life is too precious to throw away in merely getting through a list of activities. Real life is weaving, stitch by stitch, a beautiful pattern; whoever could imagine that being done helter-skelter and breathlessly against Time?*

*The "making time" business is not so fantastically impossible as it sounds. It is usually a matter of cutting away and weeding out things that don't count—or, rather, of cutting out some so that the rest will count. Aren't there a hundred-and-one little trivial interests, or so-called interests, that you will try to cram into life? They give you very little satisfaction, probably no pleasure, and they only serve to choke the worth-while affairs which deserve leisurely attention.—Eastern Evening News.*

# *Problems of Our National Life*

by Honourable HAROLD J. KIRBY, K.C.,
*Minister of Health for the Province of Ontario.*

LEADERS in public life today are faced with many and varied problems of a complex nature which are serious and far-reaching in their effects, bearing, as they do, upon our civic and national life. It should be their goal to sustain our present form of democratic government, which, to date, has proven to be the best suited to our needs and requirements. It should be their concern to prevent and off-set to the very best of their ability any isms or forms of dictatorship which would work against, and finally be disastrous to our social life and good. While I have no panacea for getting away from our present ills, nevertheless, I am most anxious at this time to mitigate the problems with which we are confronted, and to make this fair Canada of ours a better place in which to live by having such economic security as will enable us to live happily together; and to enable us to raise and educate our children so that they in turn may have a reasonable expectation of living happy and useful lives which will redound to the good of our citizenry.

There are few who do not highly prize the freedom, and the opportunities, and the sovereignty of the individual citizens, under our democratic form of government. Thus it is that we hear many discussions pertaining to the defence of democracy, to the protection of this continent, and to an increase in our armed forces.

The thought that I should like to leave with you today is that the real testing ground of democracy is not and never has been the battlefield. Wars do not make the world safe for democracy. A large army and navy is not the best guarantee of the rights of an individual citizen. The real front line trenches of democracy are its internal problems that threaten the welfare, the happiness, and the security of its individual citizens.

The real test of the durability of any form of government is the welfare, and the contentment of the people living under that government. And so, today, the greatest contribution that we, of Canada, can make to the future of democracy, and to the preservation of peace in the world, lies not in the increase of our armaments so much as it lies in the constructive and progressive solution of the social and economic maladjustments that exist under our democracy. Our front line trenches are the problems of more jobs for those unemployed, a higher income, and more buying power for the farmers of the nation.

This is to be done in the first instance, and must come about, through the development and encouragement of private enterprise.

The foundation for the development of more jobs in private business must be the building up of a mutual respect of business for the government, and of government for business. It is wrong, and it is unsound for business to control government, and it is equally unsound for government to control business. It appears to be clear that if we are to develop that respect for government which is the first prerequisite of a successful democracy, then abuses in business prac-

* Address delivered before the Lions Club, Toronto, February 2, 1939.

Honourable HAROLD J. KIRBY

tices must be sternly checked; but they must be regulated and corrected without intemperate attacks upon all of business, and without an attitude of hostility between government and private enterprise.

Progress in democracy cannot come through division and dissension or the inciting of class hatreds and bitterness. Progress must come from the foundation of a spirit of tolerance and a unity between our peoples in all walks of life, and of all nationality backgrounds, and a recognition of our independence that will form the sound, broad highway upon which we can go forward together.

It is equally essential that business should not fight blindly against all attempts to develop social security, and should not take up, en masse, the cudgels against government when the improper practices of some are corrected and regulated. If government is to earn and retain the confidence of the people, it must be conducted on a sound financial basis, with a consistent planning of its program, and with a minimum of uncertainty, and it must set its own house in order by the elimination of duplication and waste, and as government, of necessity, engages in more and more activities and services of its people, the need becomes that much more acute for the development of a real, merit service by governmental employees, and by outlawing the spoilmen's ruthless tactics.

It is my conviction that the future welfare of our people cannot be served by an attitude that is narrowly partisan, or that is either reactionary or radical, but that future progress can be made by a constructive attitude based upon the broad principles of tolerance between our people, setting out together, with our eyes toward the future.

# *Look After Your Teeth And Those of Your Boys and Girls**

by HARRY S. THOMSON, D.M.D., Toronto, Ontario.

*(Here is a true story every father and mother must read—and then, impress upon the members of the family the importance of sound healthy teeth.)*

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ORAL health—that is the health of our teeth — has made great strides during the last two or three decades.

Dentistry no longer consists of merely filling, crowning or extracting teeth. The importance of the science of prevention in oral health, as in the health of the body as a whole, has become almost equal in importance to the science of curing dental disease.

It is known now that proper prenatal diet for mothers, and for children during infancy, childhood and adolescence goes a long way toward giving us strong, healthy teeth, and that a correct diet, during maturity, does much toward maintaining sound teeth.

We know, too, that one or two diseased teeth can cause—and do cause in innumerable cases—bodily ailments far out-distancing the pain and discomfort of toothache in their devastating and sometimes fatal effects.

It is a case of recognizing "cause" and "effect". The difficulty is in realizing that a general lassitude — a lowered vitality and lack of staying power—is the "effect" of which a tooth which doesn't ache but is "sore to bite on" is the "cause."

The case of Peter O'Brien will perhaps be a good one to use as illustrative of many of the points which are important for us to know.

Peter was sixteen. He was red headed, was a pupil at Kingsville High School and was declared by school sports writers to be the best, all-round, high school hockey player in the east, for the 1937-38 season. He was responsible, in a large measure, for bringing the High School Championship to his town, and was popular, not only with the boys and girls at the school, but with the town as a whole.

Kingsville was counting on holding the championship in hockey, which meant that Kingsville was counting on Peter O'Brien. But in June something happened which no one had taken into consideration. Pete failed to pass the examinations which would have taken him out of Grade 10 and into Grade 11. He failed miserably.

There is a rule in Kingsville—an inviolate rule—that no boy who has failed to keep up in his studies may play on any team representing the school. This season, in November, when the hockey teams were being lined up for practice,

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* This splendid article on the subject "Look after your Teeth" is reprinted by permission of the Canadian Home Journal from its February issue. This helpful treatise should be read by every dentist in active practice, in order to broaden his viewpoint in presenting the subject of dental health to his patients. It is an article, also, which the dentists of Canada should widely distribute among their patients.

Our profession is indebted to the "Canadian Home Journal" for giving such prominence to this very important and enlightening health story, as written by Dr. Harry S. Thomson, energetic secretary of the Canadian Dental Hygiene Council, in collaboration with Dr. Stephen A. Moore, President of the Canadian Dental Association, and the Public Dental Health Committee of the Canadian Dental Association.

Pete's name did not appear on the list. A wave of resentment swept, not only through the school, but through almost the entire city, for Pete was the one indispensable if Kingsville was to again reach championship status. Delegations of students appeared before the Principal on Pete's behalf, as did also a group of business men and representatives of the city council. As a result of the heavy pressure and of the promises made by Pete's sponsors, the Principal reversed his decision and Pete joined the team on the third day of practice.

But there was something wrong with the big red head. The coach noticed it but he tried to ignore it at first, thinking that perhaps it was the result of the suspense and uncertainty which Pete had gone through. Then as the season advanced into December, and serious work was attempted, the coach found it necessary on several occasions to send Pete to the bench.

"Am I going to play on the team this year, or am I not?" Pete impatiently demanded of the coach.

"That's up to you Pete" the coach told him. "You are one of the fastest skaters we have in the school; you're an excellent stick handler, a good shot, and you show good judgment, but there is something wrong somewhere. You just can't take it! You play all right for five or ten minutes, and then you just appear to loaf. I spoke to the Principal about you, and he says you're lazy—that you went lazy last year, the latter part of the term, and that is why you missed the examinations." Pete's face was crimson but he made no defence, and the coach went on: "I told the Principal I didn't think it was laziness, for I knew you would rather play hockey than do anything else in the world, and mere laziness would not keep you from doing your best at it."

Pete remained silent. "There is something seriously wrong, Pete, and I think we should discuss it with your father. What do you say if I ask the Principal to go with me to your house tonight and we will talk things over?"

That evening Mr. O'Brien, the Coach and the Principal had a heart-to-heart talk with Pete, both as to his studies and his hockey playing. Had it been the studies only, Pete's father might have used that trite phrase, "the boy is not applying himself," but as both studies and play were slipping, it was realized that there must be something wrong. The discussion resulted in Mr. O'Brien's telephoning Dr. Young, the family physician, and asking him to see Pete, if possible, the next afternoon and give him a thorough physical examination.

The next day Pete and his father went to Dr. Young's office.

"Well, young man, it's quite a while since I've seen you" Dr. Young greeted Pete. "The last time was when you were eleven years old and had measles. Boy, you were sick that time, weren't you? You have grown some since then. How tall are you?"

"Five feet seven," replied Pete.

"Jump on the scales till I see how much you weigh. 132 pounds! Well, not quite enough, is it? Did you ever weigh any more?"

"Yes, last summer before I went to camp I weighed 139."

"Have you grown any since then?" asked the Doctor.

"Yes, sir, I've grown an inch and a half."

"Well, that doesn't sound too good does it? Grown an inch and a half and lost seven pounds. We'll have to look into this."

"I haven't been paying as much attention to this boy as I should," Pete's father thought. "I certainly didn't realize that he was losing weight. I'm afraid I've been paying too much attention to other things, and not enough to my boy."

"Take off that coat and shirt, and let's get down to 'bare facts', the Doctor said to Pete. "I want to discover the reason for this loss of weight."

The examination was a most thorough one. His stethoscope moved up and down Pete's chest and back. He examined his throat, his ears and his eyes; took a drop of blood from his ear and put it on a slide to test it for colour, and went over every part of the boy, from the tips of his toes to the top of his head.

While waiting for some tests from the laboratory, the Doctor said: "Pete, the boys tell me that you are not practising full time at hockey this year — only a short time at each session. What's the reason?"

"I don't know, Doctor," Pete said frankly. "I just seem to get tired out quickly—but I feel all right otherwise."

"Any pain?" asked the Doctor.

"No—I just can't seem to keep my feet going. It's the same way with studying and home work. I used to be able to sit down after supper and study for two or three hours, but now I can't seem to do it; I'm so tired I just want to go to bed."

"Well, that's certainly not the way a 16-year-old boy should feel! And it's not the way Pete O'Brien used to play hockey, is it? Ah—here are the reports now. Let's look them over."

The Doctor studied the reports intently for a few minutes. Then he turned to Mr. O'Brien.

"I hardly know what to say. . . . There doesn't appear to be anything organically wrong. His heart, lungs and other organs are sound. His blood is a good colour, but there appears to be a general let-down throughout the body, a sort of tiredness. We sometimes call this physiological fatigue. It is commonly the result of some infection in the body. It might be his teeth. I think I noticed some bad ones when I was examining the mouth. What about them, Pete?"

"Yes sir, I have two or three bad teeth. They were sore for a while, but they don't ache any more now."

"How long since you have been to the dentist?"

"Oh, I don't know," replied Pete. "I guess it must be three or four years."

The Doctor was dumbfounded. An athlete not realizing the importance of oral health; not visiting his dentist regularly, yet knowing he had bad teeth in his mouth!

"Pete," he said, "that's awful! Mr. O'Brien, I would suggest that you take this boy over to your dentist at once and let him look over Pete's mouth. Do you know that sometimes we physicians find that bad teeth cause just such a condition as Pete has? Infection from diseased teeth, or their poison, is sometimes discharged into the blood stream. This poison might be carried all through the body, and there is evidence of it in this case."

Now here are some facts difficult to reconcile. Pete's father is a lawyer, with a necessarily keen and analytical mind, who, for a hobby carries out scientific farming. He raises pure-bred stock. Yet, in discussing Pete's condition with the doctor he frankly, yet ashamedly, made the following admission.

"It's a strange thing that I have never applied to Pete the scientific knowledge which I apply to my pure-bred Jerseys. I have them examined for tuberculosis, every year, by a government expert, for if such poison got into the blood stream of one of them, as you say may be in Pete's, I would have to destroy the cow—a cow for which I had paid possibly $500. Not only do I have them inspected for tuberculosis, but their food is watched and measured to be sure that they receive the proper quantity of minerals, some vitamins and a sufficient amount of protein.

"But with my boy Pete, I haven't even thought about having him examined

every year for physical defects. I haven't made sure that *he* is receiving a properly balanced diet. I haven't given him as much consideration—not nearly as much —as I give to my cows. The only reason is because I have studied cows scientifically, and failed to scientifically study my boy!"

Pete started to say something but his father raised his hand to silence him and Pete contented himself with moving a couple of steps closer to his Dad.

"I realize now that Pete's failure at school was not his fault," Mr. O'Brien continued. "It was my fault, perhaps. Really, it is the fault of generations of people who have neglected to pay as much attention to the mechanism of their own bodies, and their physical welfare, as they would pay to live stock or a highly specialized piece of machinery. I thought Pete was just lazy last year. Now I realize it was probably a physical condition which I should not have permitted to exist. Pete and I are going to the dentist's right now."

The dentist made a complete examination of Pete's mouth, and took x-rays of every tooth. In this examination he found seven bad teeth — four of them very bad.

"Just how bad they are the x-rays will show," he said to Mr. O'Brien. "I will have these films developed immediately."

"Tell me something about these x-rays," said Mr. O'Brien. "How do they show a diseased condition?"

The dentist explained that the x-rays penetrate the gums, bone and teeth and register shadows on a sensitized film. These shadows on the film indicate whether the teeth are good or bad. When the films of the x-ray photographs he had taken were developed he showed them to Pete and his father.

"If I wish to take a picture of an apple and hold a piece of glass in front of it," he explained, "I would not see the glass in the picture, but would just see the apple. The rays of light penetrate the glass, but cannot penetrate the apple, so the apple stands out. X-rays penetrate flesh, but the bone, being more dense, shows a darker shadow. Now, normal bone is shown in the picture around Pete's good teeth, but around those bad ones you see abnormal bone. Here is a large sac-like formation which we believe contains pus and disease germs, or, as we say, 'it is an area of infection'— and my examination of your boy's mouth has confirmed this. This infection, or the disease germs, may gain access to the blood stream. In a reasonably healthy individual the blood can take care of a small amount of this infection. There is a fighting force within the body to do just that. But where there is a great amount over a long period—and Pete has four abscessed teeth — the fighting forces of the body are overcome, and disease germs may gain direct access to the circulation. These germs, or their poisons, are carried to other parts, and may weaken the defences throughout the entire body."

"What causes these abscesses?" Pete's father asked.

"Well, through neglect, decay progresses until it reaches the pulp, or as you would say, the nerve is exposed. This pulp (or nerve) becomes easily infected and the pulp dies. Thus infection passes through the root end of the tooth, and in most cases an abscess forms. An abscess is sometimes called a pocket of pus. This pus is continually forming (until the cause is removed) and must have an outlet. The outlet is sometimes through what we call a sinus, or you may call it a gum boil, but frequently the pus is formed just fast enough so that the circulation can pick it up, and often an abscess forms without a person's realizing it. At some time Pete must have had a severe tooth-ache. According to

the old belief, tooth-aches were just something which we had occasionally, and did not mean anything, but today we know that a tooth-ache always means serious trouble."

"What causes tooth decay?" asked Pete's father.

"Many things," replied the dentist, "and I only wish I could tell you the specific cause. Scientists all over the world are searching for it, but, as yet we do not know with any degree of certainty. We have, however, certain scientific knowledge bearing on the cause. First, we know that the human body requires a balanced diet — sufficient fats, carbohydrates and proteins; foods that contain the necessary vitamins and, probably most important to the teeth, foods that contain minerals. These minerals are required for the normal functioning of the body. The teeth are composed largely of minerals, and we sometimes wonder if an absence of these minerals in the diet may not be a definite cause of dental decay. This has not yet been positively proven, but we do know, that without these minerals, the normal functioning of the body in all its parts cannot be maintained. Today therefore, we, as dentists, advise our patients, that they must pay strict attention to their diet in order that all parts of the body may function, and that sound teeth may be built. They must eat foods that *do* contain the well-known elements, as well as sufficient minerals and certain vitamins. We believe today, that this normal functioning of the body will establish sound, healthy teeth, and help maintain them."

"What about cleaning the teeth?" the father asked.

"That also is necessary," replied Dr. Black. "Really, it is more necessary that you wash your teeth than that you wash your face. If food particles, particularly carbohydrates such as cake, bread, pastries, cereals, candies and sweets, are allowed to lodge between the teeth, fermentation takes place. Acid then is formed, and this acid will cause a breaking down of the enamel coating, permitting an entrance for bacteria to the softer, inner structures of the teeth—and here decay progresses very rapidly."

"Then the secret," says Pete's father, "is to keep this enamel covering of the teeth sound."

"Just that," replied the dentist.

"Is this enamel crown ever imperfectly developed?" was the next question.

"Yes, it appears to be, and that is the reason why we advise strict attention to the building of sound teeth, which takes us back to early childhood, and even to prenatal life. Teeth begin to form very early, as early as the third month of prenatal life, when the crowns of the deciduous or 'baby' teeth begin to form. The crowns of the permanent teeth begin to form at the eighth month of prenatal life. Really the first seven years of childhood are the most important for the building of sound teeth. It is then that the mother should have a knowledge of what a balanced diet really means, how it may affect the teeth and, most important, how it affects the development of the entire body. She must realize the importance of eating some natural food every day—uncooked vegetables, fresh fruit and milk.

"Milk and all of the dairy products—butter, cream and cheese—are all natural, wholesome foods, and contain the necessary minerals and some of the vitamins," he continued. "This knowledge the mother must apply, not only to herself, but also to her growing family. Milk in itself provides almost all of the necessary elements for body building, and each growing child should have a liberal quantity each day. Scientists now believe that vitamin D has an important bearing on the development of sound teeth, and so it is essential that the growing child

should be in the sunlight during the summer months as much as possible. During the winter, when there is less sunshine, vitamin D can be provided through cod liver oil."

"This is pretty sound stuff for us to know, isn't it Pete?" said Mr. O'Brien, and Pete, very serious, nodded his agreement.

"Let us go back for a moment to the subject of cleaning the teeth," said the dentist. "There are two methods. First, nature's way, such as eating a raw apple or other uncooked foods. Secondly, by brushing. The teeth should be brushed after each meal, and, *most important,* just before retiring. And by brushing I mean seriously brushing. Work the bristles in between the teeth to dislodge food particles which may be there. You need not worry so much about the smooth surfaces. They take care of themselves, but it is in between; keep that in mind—*in between.*"

"How long ago should I have brought Pete to you to avoid this trouble?" asked Mr. O'Brien.

"You should have started when he was two and a half years old. Every child should be taken to a careful, competent dentist at least every six months," said Dr. Black gravely. "If you had done this, we should have found these cavities when they were very tiny. They could have been filled without any pain, at very little cost, and the teeth would have been saved. Now Pete will have to lose four of his permanent teeth, four teeth which are abscessed, and without them he cannot properly chew his food. He will be a tooth cripple, and he is only 16 years old! What would you think of a man who thus neglected his pure-bred Jersey cows, Mr. O'Brien?"

"Not much," replied Pete's father, "and I think a great deal less of the man who neglects his sixteen-year-old boy. . ."

Dr. Black made several appointments and in a short while Pete's abscessed teeth were removed, all cavities were filled, and his mouth put in a clean, healthy condition.

Over the period of time it took to do the work, Dr. Black stressed the importance of taking proper care of the teeth, and advised Pete just how to do it.

"No boy with diseased teeth ever became a real champion hockey player," said Dr. Black. "He couldn't get that far with diseased teeth discharging poisons into his blood stream."

"What about hockey for me?" said Pete. "Do you think I will be in shape for the big games this year?"

"That remains to be seen," said the dentist. "Quite frequently boys of your age 'come back' very quickly. I hope you will."

Pete's condition improved quite rapidly, even more rapidly than Dr. Black expected. The coach, however, used him very sparingly, knowing that it would be months before he would be back into real condition. During practice he allowed the boy to play only ten or fifteen minutes and Pete resented this. He insisted that he was feeling as well as ever, but the Coach realized that a *well boy* was more important than a *good hockey player.*

The two big events of the hockey season were the home-and-home games between Kingsville, Pete's home town, and Youngstown, some 80 miles away. The first game, on December 30th, was played in Youngstown. Pete was not able to play in this game and the game finished 4-0 in favour of Youngstown.

That night, even though he was sixteen years old, Pete practically cried himself to sleep.

On January 6th, the Youngstown team played in Kingsville, and Kingsville had to win this game to qualify for the playoffs. Just before the game the Coach came to Pete.

"I am going to dress you for the game tonight, son," he said. "I'm not sure that I'll use you; I'll only do so in an emergency. You say you're fit but I am not sure that you're back to normal. If the emergency *does* arise, I may put you in, that's all I'll say."

Pete sat on the bench beside the Coach, all dressed for the game. The crowd repeatedly called "We want O'Brien! We want O'Brien!" but the Coach did not send him out.

It was one of the hardest-fought games ever played at Kingsville. Every player appeared to be doing his utmost, but when the final gong sounded the score was tied—2 all.

At the commencement of the overtime period it was apparent that all the boys were pretty well played out, but the visiting team had, so far, the better of the play.

After eight minutes of the overtime they were still deadlocked and the Coach was worried. The Kingsville boys were not shooting as they should. Suddenly he leaned over and whispered to Pete:

"Boy, I'm going to give you your chance at the next face-off."

The whistle blew. It was for the face-off — right beside the Kingsville's net. The Coach gave Pete a slap on the back and said:

"Now, Pete, do your stuff!" and Pete shot out on the ice like a chased rabbit.

From the crowd came a sudden, jubilant roar! "O'Brien! O'Brien!"

At the face-off Pete grabbed the puck. He shot it over to right wing, broke fast down the centre of the ice, where he received the puck, faked a pass to his left wing, slipped around the defence, and then slammed a sizzler into the left hand corner of the net.

Thirty seconds more and the gong sounded. The game was over! Score—Kingsville 3, Youngstown 2.

The crowd went wild, and in the dressing room, to which Pete had been carried shoulder-high by the boys, the Principal came up to him and shook his hand—hard.

"Pete, we're proud of you!" he said simply. "You did it!"

"I may have shot the goal," Pete replied modestly, "but the man who really won the game, I think, was my dentist. He told me what bad teeth meant. They nearly ruined me! Believe me, sir, from now on I'm going to follow his advice, for no one can play hockey right, or do anything else right, I guess, who neglects to take care of his teeth."

Thus the tale endeth. No need to further point the moral.

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*Something like a passion for physical health has seized the men and women of Britain in all classes. It carries with it a strong and general desire to be as nice looking as one's own efforts can compass. It has produced a vast new literature; it is producing a new and more cheerful race. It is revolutionizing clothes—today freer and more sensible than ever before; it is opening windows—and not material windows only. All sorts of false reticences and unreal shames are being swept out by its powerful wind. Men and women are discovering a new kind of companionship in the freedom of exercise and games done together; the spectre of premature old age is being exorcised for both sexes and all classes.—Mary Agnes Hamilton in a recent broadcast talk, per Medley.*

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*You cannot afford to stand at the chair and educate the public one by one, and even then you will not reach 75 per cent of the people.—W. A. Moline, Spokane, Washington.*

# Practice Management

The Journal Committee has found an increasing demand for a Section in the Journal on "Practice Management". You are invited to send your suggestions on office management and practice, or concise articles on some phase of this subject to the "Editorial Office," 314 Somerset Building, Winnipeg.

## Collection Quiz

FROM its correspondence with private physicians, Medical Economics selected nine commonly asked questions on collection problems. These were sent, in quiz form, to the business and collection manager of a well-known clinic, a clinic that has stayed in the black while preserving a strictly ethical doctor-patient relationship.

The questions and answers are presented below.

1. *How many bills do you mail out before sending a letter?*

Answer. Two. Experience shows that this brings best results. To send a letter after rendering only a single bill suggests greediness; to wait until three or four bills have been sent implies lax business procedure. Two bills, then the letter, is the right order.

2. *When a patient offers to pay his bill in instalments, what do you do?*

Answer. Accept. But make a written note of the details—in the patient's presence. Read it aloud; ask if it is correct. Don't accept by saying casually: "That will be all right, John;" or "O.K., Mr. Smith." Instead, let the patient see that you mean business and that you keep records.

3. *If the first bill is ignored, how can you improve your chance of securing some response to the second one?*

Answer. By enclosing a postage-paid, self-addressed envelope.

4. *Should you ask the patient to return the bill with his remittance?*

Answer. Yes. It assures proper credit and suggests that you expect a remittance.

5. *What is the best time of the month to send out requests for payment?*

Answer. Send bills two or three days before the first of the month. Send letters on odd dates such as the 20th. That makes the letters stand out from the flood of bills coming in around the first and increases the chance of their reaching the patient before he has exhausted his monthly resources.

6. *How can you extend discounts without cheapening the value of your service?*

Answer. By letting the patient understand the full value of the service and why special consideration is being shown. By applying the discount only if the bill is paid before a specified date. The bill should then be rendered for full amount, and the discount explained in the accompanying letter.

7. *For what type of patients are discounts best suited?*

Answer. First, for those who express satisfaction or gratitude, but who explain: "I'll pay you—although I can't say when." Second, for patients whose delinquent accounts are small and to whom the doctor can say, "If you'll meet half this balance, I'll meet the other half."

8. *If the patient sends no remittance but explains his failure to make payment, what do you do?*

Answer. Promptly acknowledge the explanation. Attach letter and copy of your acknowledgment to the patient's file. Suggest a suitable payment (either by instalments, if patient has a small regular income, or by discounting part of the bill if the patient has meagre assets with irregular income. Enclose a self-addressed, postage-paid envelope for his reply.

9. *If the patient sends no remittance, but complains of your treatment, what do you do?*

Answer. Promptly acknowledge the letter. Attach the complaint and a copy of your acknowledgment to the patient's file. Ask the patient to call at the office, and talk it over. Make an appointment and explain that the conference is not a regular office visit (lest he fear he will be charged for it).—*Medical Economics, October,* 1938.

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## *Good Girl*

by FLOYD BURROWS, M.D.

FOR thirty years I have been hiring and firing blondes and brunettes, old and young, married and single. Only two stand out in my recollection as nearly perfect specimens of what an office helper ought to be. Finding a woman who combines the requisite fundamentals and lacks the undesirable traits is nearly as difficult as locating a dodo bird.

When about to employ a secretary one should go about the process of selection intelligently and according to rule. Here are some pointers I have found useful:

1. Have the prospect call on the phone. Talk with her at length. Study her method of speaking. See if her conversation is pleasing, clear, and understandable. Observe whether she mumbles her words, talks too fast, or uses slang.

2. Have a personal conference with her. Note whether she is neat in appearance. Observe the character of her clothing and whether she has halitosis. Inspect her complexion, hair, teeth, and nails. Dictate a sample letter and let her type it. See how she spells and how she writes longhand.

3. Demand references as to honesty. Ask what her religion is. Ask where she lives. And, if convenient, visit her home.

4. Take her on trial for two to four weeks and watch carefully how she reacts to all the tests that can be invented in that period. Study her disposition.

5. Find out whether she wants a job permanently or temporarily. If single, determine whether she intends to marry soon. Ask what illnesses she has had and how many days she was sick at home during the past year.

These five rules alone will produce a lot of helpful information.

Like most doctors, I need in a secretary, honesty, loyalty, punctuality, alertness, neatness, a close mouth, a sense of humour, an even disposition, a clear, pleasant telephone voice, and the ability to keep in step with my way of doing things. It's a big order—but it has to be filled. When such a paragon is finally harpooned she should be anchored with chains of gold.—*Medical Economics, per Bul. Essex Den. Soc. N.J.*

# The Forum

## • MAINTENANCE DENTISTRY FOR PRE-SCHOOL AGE CHILDREN

by WALDO H. MORK, D.D.S., F.A.C.D.,
New York, N.Y.

I HEARD a dentist snicker the other day and it disturbed me. Perhaps because of my lack of diplomacy, I turned to the man and asked him what he was sneering about.

The scene took place during a meeting at which the speaker was discussing the necessity for pre-school age dental care and I didn't hear anything funny or worthy of my colleague's derision. In fact, I thought the speaker had expressed himself particularly well and his subject was the most pressing of dental problems.

His answer amazed and surprised me. He said, with a nod at the speaker: "He doesn't know what he is talking about. All of these theories about diet, oral hygiene and systemic indications are valueless. Any practising dentist knows that all we do is to fill decayed teeth constantly and later we provide practically everything that modern dentistry has to offer from inlays, root canal therapy, bridges and dentures."

That man issued a challenge to the dental profession and at the same time sounded like a prosecuting attorney presenting a blanket indictment for everything that dentistry has grown, in my mind, to mean. After my many years of practice, his remark was a red light. It said, "Stop!"

Reflecting, I began wondering just how far we had come. Of course, a review of the mechanical improvements in dentistry since the day I left college, passed through my mind. The work in children's dentistry loomed up. I remembered my good friend, Thaddeus P. Hyatt. The work of Price, McCollum, Mellenby, Bunting, Bodecker and others in the field of caries, stood out.

The efforts of others in eliminating pain, the unpublicized contributions to technique as well as the research conducted by our dental manufacturers came to me. I thought of the progress made under my very eyes at countless history-making clinical sessions and I remembered some of these false starts, received at the time with enthusiasm, which the years cast back into oblivion.

One fact stands clearly before me. The will to do for humanity should be a driving force within us. Psychologists call it consciousness—our profession for lack of a better term—calls it ethics. Call it by whatever term you will, we know that we can, we do, and we have maintained dental health in children. True, caries will have to be conquered in the laboratory, but until that time comes, our tasks lie in education and operative dentistry in the field of the pre-school child.

Children must be taught to like the dentist, rather than *NOT* to fear him. Intelligent discussion with parents and teachers should be helpful in this direction. Many psychologists have told us that good teaching demands that positive facts should be presented to the child. In other words, it is their belief that a child remembers the 'NOT' and 'DON'T' less than the forbidden portion which follows. Instead of talking about what a wonderful thing it is to maintain good dental health, we have talked about preventing 'BAD' dental health.

Regardless of the approach, the future to which young men entering the profession can look, and the work by which

dentistry will be judged in the future, will be, if I may coin a new phrase, MAINTENANCE DENTISTRY . . . not restorative or preventive. A stronger alliance with, and more co-operation from the medical profession will make the maintenance of dental health and general health a reality.

In conclusion, I should like to say a word or two about MAINTENANCE DENTISTRY. Health authorities have told us for many years that certain *abnormal* conditions produce disease, consequently, I do not feel that I am assuming too much when I say that the maintenance of normalcy will eliminate the possibility of disease. This theory should be particularly adaptable to the health of the teeth and the mouth.

Dr. Krasnow has told us that if the prospective mother insures her own health through the creation of added vitality and consumes a diet adequate in proper minerals and vitamins as well as in all other dietary essentials such as proteins, carbohydrates, fats, water, roughage, and proper balance among them, before conception, that her child will be born with normal healthy teeth. That child should face a bright healthy future and it is our obligation to maintain this dental health as much as it is the responsibility of the physician to maintain good general health. So, like most of us who think later on what we should have said, I feel that my sneering colleague at the meeting, should have been told all this. If he should happen to read this, I hope that it will make him feel that a few hours a week of his time could be devoted to some hospital or clinic so that some day a healthy child may grow into a fine man or woman through the maintenance of healthy teeth and mouths. That is a goal for which to live.

An Appointment for 3 P.M.

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*Editor*—M. H. GARVIN, Winnipeg

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# *Adequate Dental Care for the Masses*

A few weeks ago the Chicago Dental Society published a pamphlet entitled, "The Cost of Dental Care under Health Insurance" which has added much valuable information to this complex problem, and has placed the dental profession, not only in the United States but in Canada as well, under debt to the Society.

The data for this study was obtained through the efforts of the Industrial Diagnostic Service of the Chicago Dental Society. The mouths of 4,211 men and women in six Chicago industrial companies were examined clinically in conjunction with a full set of roentgenograms of each person.

The actual dental need in each case was determined; that is the treatment necessary to safeguard the health of the person at the time the examination was made, was definitely outlined and decided upon. Any treatment which might be deferred to some future time was excluded. No extensive restorative dentistry, such as porcelain jacket crowns, removable metal bridges, etc., was included.

The extent of the neglect of teeth was almost unbelievable. Fifty-nine per cent of the families visited reported a need for dental care. Whole

families needed fillings or extractions. Active abscesses and advanced cases of periodontoclasia were being neglected.

The fees used to determine the cost of this needed dental work were those which were selected as being the average used in a community the size of Chicago.

When this mass of material was obtained it was turned over to Peter T. Swanish, Ph.D., a well-known economist and statistician, who was Chief of the Division of Statistics and Research, Illinois Department of Labour, at the time the study was made.

The records were classified to show (a) dental needs according to sex, (b) age, (c) length of time since last visit to the dentist, (d) number of dependents, (e) condition of individual health, (f) the time-character relationship between the dentist and the individual examined, (g) income. In the latter case, 4,211 persons were divided into two arbitrary income groups; those receiving under $20.00 a week and those receiving over $20.00 a week.

Contrary to expectation the study did not reveal any relationship between age, dependents, income and the cost of dental need, nor was greater dental need associated in any significant degree with longer periods of time since the last visit to the dentist, which indicates that other factors were at work in determining the cost of needed dental care.

It was shown that women visit a dentist almost twice as often as men, and almost all women had visited a dentist within the last five years, with the result that the mean cost of dental need for females is lower than for males.

It is significant that 73 per cent of the males and females combined were 40 years of age or under. It is thus apparent that either the industrial system will have to find a place for the older worker, or society, as a whole, must expect to be taxed for the support of those unable to provide the necessities of life through their own efforts. Dental care being a necessity will have to be provided for this class and arrangements may be forced upon the dental profession which it may or may not want, the unwilling victim of factors operating in the industrial system over which it has no control.

The most startling finding was that the average cost, in dollars, for enough dentistry, merely to safeguard the health of an adult was $53.00, (males $55.00, females $48.00,) at the time the examination was made. It is obvious, therefore, that to adopt a compulsory insurance system in which those enrolled would receive enough dentistry to safeguard health would require an enormous sum of money. This sum can be estimated by multiplying the number of persons who would receive care, under the system, by $53.00, the average cost per individual. If the average cost is accurate and reliable, no insurance plan in existence, or even proposed, pretends to supply enough dental care to safeguard health from a dental standpoint, and to attempt the same would mean financial ruin.

On previous occasions I have stated that it is my conviction, based on carefully tabulated statistics, that even after the mouths of such persons are placed in a condition of health that it would require on an average of one dollar a month per patient, to keep their mouths in a healthy condition.

In a monograph on Social Insurance, published by the Metropolitan Life Insurance Company, it is stated that in 1931 the average per capita expenditure in Germany, for cash and material benefits, hospital care, medical and dental benefits, medicines and drugs, funeral benefits, administrative and other costs, was $18.69. Of this total, 5.08 per cent or approximately ninety-five cents per capita was spent for dental care. Under the Sickness Insurance System of Denmark, a voluntary scheme, the per capita annual outlay for dentistry was twenty-four cents.

Sweden is the first and only country where the State has organized dental treatment for all of its people. Last spring the Swedish "Riksdag" voted in favour of a bill making dental treatment available to all Swedish people. The country has been divided into districts, and about 800, or one-third of the dental population of Sweden, is required to take care of the work. Every State hospital has its own dental department for special cases, and every man, woman and child is expected to receive treatment for dental diseases at a very low cost. Children between 3 and 15 years of age are being treated at the cost of only a few crowns a year. The expense of treating the indigent is being met by the State. This plan has not been in operation long enough to pass judgment upon it. Furthermore, in order to evaluate it, one would need to know something about the general condition of the mouths of the populace in this country, what is considered to be adequate dental service, and what remuneration is received by the dentist for his services.

In a recent issue of the British Dental Journal, Mr. Bryan J. Wood, editor of that Journal, states that the Approved Societies in Great Britain spend $10,000,000 annually on the provision of dental treatment under the National Health Insurance Acts; that of the 12,000,000 insured persons who are eligible for dental benefit, only 10 per cent of that number avail themselves of that service in any one year, and that 65 per cent of the money available is spent in providing dentures. One cannot help but wonder what would happen if 50 or even 75 per cent of these people demanded dental service in any one year. Mr. Wood urges strongly, and rightly so, that greater emphasis be placed upon extended research work if the people are to go through life with the dentition provided by nature unimpaired in its efficiency.

A compulsory health insurance scheme may provide jobs for a larger number of political satellites, their salaries being deducted from funds which should rightly go into the hands of the dentists, but it will not provide adequate dental health for the nation. It would seem, therefore, that the best possible basis for pursuing a national health program is from the angle of prevention, based on energetic research into the cause of these deplorable conditions.

# NEWS FROM THE PROVINCES

*BRITISH COLUMBIA:*

### Mid-Winter Clinic at Seattle

Over thirty members of the British Columbia Association were in attendance at the Seattle and District Dental Societies Annual Mid-Winter Clinic held in Seattle. The opening session was a breakfast meeting with over two hundred present at 7 A.M. The morning and afternoon were given over to chair and table clinics. Dr. G. A. Selleck, San Francisco, Cal., and Dr. H. C. Fixott, Portland, Oregon, were the guest speakers and clinicians. Dr. Harold Cline and Dr. William Gibson presented chair clinics on gold foil and porcelain inlays, Class 3.

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### British Columbia Dental Association

The annual meeting of the British Columbia Dental Association will be held in Victoria, on May 12 and 13, at the Empress Hotel. Details of the program are not available but some outstanding national clinician is being procured, and with chair and table clinics plus Victorias facilities for entertainment this should be a meeting of merit. Members of Alberta and Saskatchewan Dental Associations and Washington and Oregon State Associations are being invited. Others who are in good standing in their national organizations are also welcome.

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### Vancouver Dental Society

The regular monthly meeting of the Vancouver Dental Society was held on February, 7. The speaker of the evening was Dr. W. J. Lea, who, in an entertaining manner, delivered an unusually fine address on THE DENTAL ASPECTS OF MINERAL METABOLISM.

The speaker had voluminous notes, to which he seldom referred, and then only to cover such phases of the subject in which academic explanations of the points brought out seemed more applicable to the circumstances. The speaker laid considerable stress upon the practical application of the principles of nutrition and its relation to the health of the hard and soft tissues, as reasonably coming within the sphere of the dental practitioner.

He strongly objected to the inclusion in the diet, of children particularly, of large quantities of cereal grain foods, which, because of their potential acidity, tended to encourage the incidence and rapidity of dental caries. He recommended the substitution of potatoes with potential alkalinity to replace foods of cereal origin.

One of the interesting points brought out was the claim, supported by many references, that the addition of calcium to an otherwise adequate diet had the opposite effect to that which was intended or desired. In the opinion of the speaker addition of more meat to the diet of a child would improve the menu, since meat has a high phosphorus content, and this, in his opinion, was strongly indicated.

In the opinion of the speaker no diet for a child, or for any period in the life of the individual during periods of caries susceptibility, was adequate without the inclusion of sufficient vitamin D from natural fish oils, and that the daily amount should not exceed approximately 1,000 International Units.

He expressed the opinion that in respect to the vitamin C potency of orange and tomato juice that they were substantially the same, but that the relatively greater percentage of phosphorus in tomato juice rendered it more desirable. For this reason—if for no other—he preferred to use and recommend the juice of tomatoes grown locally rather than the use of imported citrus fruits.

His final observation dealt with the question of milk, and left one in no doubt that it was, the one best food for young people, and that at least a glass at each meal was indispensable.

*ALBERTA:*

### Dental Mechanics Seek to Widen Privileges

A private bill was to be introduced at the regular session of the Alberta Legislature which opened on February 9 to permit dental mechanics to take impressions of the mouth and make artificial dentures. It was explained that the idea was to give greater recognition to dental mechanics for the work which they

were doing and which would result in lower prices being available to the public.

*This is the type of pernicious legislation that should be fought by the Canadian Dental Association as representative of the dentists of Canada, in the interests of the dental health of the people of our land.*—EDITOR.

*SASKATCHEWAN:*

**College of Dental Surgeons**

The recent report by Dr. D. J. Brass, President of the Council of the College of Dental Surgeons of Saskatchewan, gives a review of some of the activities of the Council during 1938.

Owing to the financial condition in the Province, illegal practice and related problems have been more difficult to deal with than usual, incurring considerable trouble and expense. Two men were prosecuted successfully for practising without a license, and a complaint of a breach of the Code of Ethics by a member of the College, was investigated by the Discipline Committee of the Council.

The Council arranged with the Provincial Government for the payment of dentists, during 1939, for work done for rural relief recipients in the drought areas, on the same basis as in 1938.

It is noted that six dentists registered during the year, two on certificate of the Dominion Dental Council, and four taking the provincial examination.

The Educational Committee again received a grant of $250 towards the cost of school clinics in the outlying districts of the Province. These clinics are arranged by the Department of Health of the Provincial Government, and financed by the Government, the Canadian Dental Hygiene Council, the school districts in which clinics are held and the Dental Council. The Council agreed to pay One Dollar per member per year to the Canadian Dental Association, beginning early in 1939. This action will, we feel sure, be popular with the dentists of the Province, and we earnestly hope all the provinces will take similar action, as being a step in the proper direction.

The presentation made to Dr. L. J. D. Fasken by the Council, in recognition of his splendid services as Secretary-Registrar for a period of thirty years, and which was previously reported in these columns, was noted in the President's report for the year.

The financial statement for the year under review shows the financial position of the College to be in a very satisfactory condition.

**Moose Jaw Dental Society**

The monthly meeting of the Moose Jaw Dental Society was held in the Grant Hall Hotel on February 14, with the President, Dr. A. M. Lowey, in the chair. Dr. E. L. Moyer, a local medical specialist in eye, ear, nose and throat, gave a very interesting and instructive talk on "Diseases of the Maxillary Sinus, and their Relationship to the Oral Cavity." Dr. A. E. Chegwin also gave a thoughtful talk on "The Attitude of the Dental Profession to a National Nutrition Program," as suggested by the League of Nations.

*MANITOBA:*

**Winnipeg Dental Society**

The Winnipeg Dental Society was fortunate in having for its guest speaker in February, Dr. C. K. Bird, of St. Paul, Minnesota. Dr. Bird, who is one of the first rank Minnesota dentists and a thorough believer in the Monson theory of "Balanced Occlusion," stressed his belief that not enough attention is being given to functional occlusion in its relation to normal throat and sinus drainage and the effect upon general health of the body. Dr. Bird illustrated some of his methods of restoring functional occlusion by a moving picture film of one of his practical cases. About 60 members of the Society were out to hear Dr. Bird, and gave his paper and film an enthusiastic reception.

The dates of the next Western Canada Dental Society Convention were announced, i.e., Monday, Tuesday and Wednesday, May 29, 30 and 31.

*ONTARIO:*

**Toronto Academy of Dentistry**

Wednesday, February 8, was Past Presidents' Night at the Academy of Dentistry, Toronto. The evening was in charge of the newest Past President, Dr. Harvey W. Reid, who in

his inimitable style conducted a most successful meeting. Dr. Felix French of Ottawa, one of Canada's outstanding authorities on full denture prosthesis was the guest speaker of the evening. His address was thought provoking. He suggested that the next great contribution to the denture problem would not be technical but rather biological. He indicated that tissue tolerance varied with different people. Arthritic patients often had a low tolerance. He met the problem technically as best he could by narrow buccolingual posteriors and did not open the bite any wider than necessary, sometimes sacrificing appearance to give better function. The denture bases in such cases must not fit too tightly.

Dr. John Bothwell and Dr. Frank Martin, both Past Presidents of the Association, contributed constructive discussions on Dr. French's address.

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**Dr. W. H. Woodrow Passes Away**

The Canadian Dental Association has suffered a great loss in the death of Dr. W. H. Woodrow of Brockville. His funeral was held on Monday afternoon, February 27th, in First Presbyterian Church, at Brockville, Ontario. Among the dentists attending were Dr. Stephen A. Moore, London, Ontario, President, Canadian Dental Association, Dr. E. C. Veitch, Toronto, Ontario, President, Royal College of Dental Surgeons of Ontario, Dr. D. W. Gullett, Picton, Ontario, representative from District No. 2, Board of the Royal College of Dental Surgeons of Ontario, Dr. Ira W. Hamilton, Ottawa, Ontario, Ontario Dental Association, Dr. E. B. Sparks, Kingston, Ontario, Eastern Ontario Dental Association, Drs. George Hutchison and Roy McDougall, Ottawa, Ontario, Eastern Ontario Dental Association, and Drs. A. B. Morrow and Russell Beckett, Ottawa, Ontario, Ottawa Dental Society. A very impressive service was held and the large attendance was indicative of the high regard which Dr. Woodrow enjoyed in his own community.

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**Dental Meetings in Ontario**

The following members of the Dental Faculty, University of Toronto, addressed dental societies in Ontario during January and February:

Dr. Chas. H. M. Williams was the guest of the Elgin County Dental Society in St. Thomas on January 11.

Dr. Frank Martin visited Pembroke on February 10 and presented a practical clinic and paper.

Dr. J. W. Graham was the guest at Kitchener on February 7.

Dr. Chas H. M. Williams was a guest of the Peterborough Dental Society on February 15.

Dr. R. J. Godfrey was the guest of the London Dental Society on February 18.

Dr. George A. Morgan was a guest of the Kent County Dental Society at Chatham, on January 25. Dr. Morgan was sent out under the University Extension rather than the Faculty.

Dr. J. A. McDonald was guest speaker at the meeting of the Women's Institute of Kincardine, January 6. His subject was "The Care of the Teeth."

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**Report of the Public Dental Clinic in Toronto**

The Public Dental Clinic, operating cooperatively between the Academy of Dentistry, Toronto, and the Toronto Department of Public Health, reports for the year 1938 as follows:—

3233 patients referred to private dentists for extractions and denture repairs. (Under the Province of Ontario relief scheme the province pays $1.00 for extracting one tooth and 50 cents for each succeeding extraction at one visit. It also pays $2.50 for denture repairs for patients on relief.)

2734 amalgam, silicate and cement fillings.

970 treatments and phophylaxes.

600 dentures for patients.

46 patients had old dentures remade.

2 patients had major repairs to dentures.

152 dentists gave 196 half days voluntary service in the Clinic.

139 dentists assisted the service by doing the prosthetic restorations in their own office for which the city paid compensation.

During the year 692 patients applied for operative treatment. 900 patients had a completed service, over 300 of which needed dentures.

It is very gratifying to those giving the service to know that many letters from appre-

ciative and satisfied patients have come to the Clinic Officer, Dr. Reid. Indeed, only one of the 900 patients offered any complaint.

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### Class of 1914

The Class of 1914 will hold a reunion dinner during the Ontario Convention, on Monday June 5. Members of the class are asked to communicate with the President or Secretary.

E. Harold Campbell, *President,* 171 Yonge Street, Toronto. Irvin H. Ante, *Secretary,* Medical Arts Bldg., Toronto.

•

### Dental Officer at the Ontario Hospital

Dr. H. J. Fahey, a graduate of 1922, who has been practising in Belleville, Ontario, has been appointed Dental Officer at the Ontario Hospital of London, Ontario.

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### Ladies' Night at the Academy of Dentistry, Toronto

Each year the members set aside one evening to entertain their ladies and friends to a dinner and dance. The function was held at the Robert Simpson Company Arcadian Court on January 26, and was well attended. Dr. Lloyd Grose and his committee deserve great credit for the very excellent arrangements. During the intermission the guests were entertained by dance numbers by the dance team "Marquette and Linda" and by a table tennis exhibition by two members of the Toronto Table Tennis Club. The dance program arranged by Stanley St. John was full of innovations and was pleasing to everyone.

The following constitute Dr. Grose's committee: — Drs. Flora Cowan, Fred Flora, Cameron Adams, Harvey Milburn, R. Culbert, J. G. Perkin, K. R. Harris, Victor Large and Ross Thomas.

Guests were received by President and Mrs. Hoag, President-Elect and Mrs. Trelford, Dr. and Mrs. L. D. Drewbrook, Mrs. Drewbrook representing the Academy Ladies' Auxilliary as their President.

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### Dental Nurses and Assistants Associations of Ontario

*Toronto*—The Twelfth Annual Dinner Meeting of the Toronto Chapter was held at the Granite Club on February 6 with an attendance of 150 members and guests. Miss M. Buick, President, Miss Margaret Aitkins, Vice-President and Miss Helen Campbell were in charge of arrangements for the evening. Among the guests were Dr. J. N. Stewart, President of the Ontario Dental Association, Dean Mason, Dr. H. W. Hoag, President of the Academy of Dentistry, Toronto, and Miss Iverna Rae, Vice-President of the Hamilton Assistants' Association.

Dean Hurst of the Faculty of Pharmacy, University of Toronto, was the guest speaker and chose as his subject, "The Romance of the Drug Store."

*Hamilton*—The January meeting of the Hamilton Chapter was held on the evening of the 12th at the Wentworth Arms Hotel. After dinner Miss Schiefel, of the Mountain Hospital, gave an address on her 6 years' experiences in India as supervisor of a hospital there. The meeting proved most interesting.

*Windsor*—The February meeting of the Windsor Chapter was held on February 6 in the Canada Building with President Irene McNair presiding. Plans for a lecture from Mrs. Sills, of the Red Cross Society, on First Aid were completed for the next meeting.

*London*—On January 16 the London Chapter in the office of Dr. H. D. Taylor with 14 members present. President Margaret Kidd presided. Rev. R. J. Bowen gave a very interesting address on Alaska with lantern slides to illustrate. Refreshments were served at the close of the meeting.

*Port Arthur*—On January 10 the Thunder Bay District Chapter met in Dr. Hettenhausen's office. President Nora Bryson presided. The feature of the meeting was a demonstration on inlay technique by Mrs. R. Maki. Refreshments were served at the close of the meeting.

## *QUEBEC:*

### Montreal Dental Club

The Montreal Dental Club members met in the Club Rooms on the evening of January 18 and were addressed by Mrs. Ruth Shaw of the Junior Red Cross Society, who outlined the progress of the twenty-three established school dental clinics. Mrs. Shaw concluded her address with a plea for full co-operation of the profession.

Dr. Jas. McK. Wathen gave a short résumé

of Dr. LeRoy Ennis' lecture given at the Fourteenth Annual Fall Clinic of the Montreal Dental Club.

The Annual Winter Meet, held at the Seigniory Club, Montebello, Quebec, on January 27-29, was a huge success, about fifty dentists from Montreal, Ottawa, Rutland Vt., Burlington Vt., New York City, N.Y., Saranac Lake, N.Y., and Toronto being present and the presence of Dr. Stephen A. Moore, President of the C.D.A., topped off a glorious week-end.

Dr. Leonard Kent, President-Elect of the Montreal Dental Club, was in charge of proceedings. Dr. Arnold Mitchell, Dr. Roger McMahon and Dr. Maurice Donigan worked extremely hard and had the satisfaction of being responsible for a successful outing.

Dr. Ralph Edmisons' rink, which included Drs. Arnold Adams, I. K. Lowry and Ives Taggart (Burlington) won the Curling Bonspiel and were presented with Seigniory Club spoons.

Each year the Toronto Academy of Dentistry and the Montreal Dental Club exchange clinicians. This year Dr. I. K. Lowry represented the Montreal Dental Club in Toronto on December 7. Dr. Lowry gave a clinical demonstration on "The Hanau Correction Technique."

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### The St. Hyacinthe Dental Society

The members of the dental profession of the city of St. Hyacinthe now have their own dental society. The St. Hyacinthe Dental Society, founded in August, 1938, has been very active since its foundation and has held regular meetings every month.

The Society has done much to promote a better understanding between local dentists. It has at heart the welfare of the profession and also intends to do much towards educating the public on the value of dental hygiene.

The officers of the St. Hyacinthe Dental Society for the present term are: President, Dr. A. Bédard; Treasurer, Dr. H. Breton; Secretary, Dr. Y. Lafleur. The Hon. Albini Paquette, Provincial Secretary and Minister of Health, in the Quebec Provincial Government, is Honorary President.

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### Dental Nurses and Assistants

The January meeting of the Montreal Dental Nurses and Assistants Association took the form of an open Forum. The president, Miss Mildred Starr, led the discussions. On February 7, the Association will hold its annual meeting in the Venetian Room of the Queens Hotel. At the banquet, election of officers for the ensuing year will take place. Arrangements are in charge of Miss Martha Barber, the President-Elect.

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### Mount Royal Dental Society

A meeting of the Mount Royal Dental Society was held on January 24, in the Mount Royal Hotel. The program for the evening consisted of a series of table clinics and exhibits as follows:

Dr. B. L. Hyams — "Full Size Colour Photography of the Mouth."

Dr. M. Kolber—"A Case of Surgical Interference."

Dr. F. Mendel—"Mouth Reconstruction in Relation to some Phases of Periodontia."

Dr. C. Vosberg—"A Semi-Direct Inlay Technique."

Dr. J. Wiener—"Impression for Three-Quarter Crown."

Dr. G. Zimmerman—"Anatomy of the Mandibular Injection."

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## EMPIRE NEWS

*GREAT BRITAIN:*

### Mr. A. E. Rowlett Honoured

The Swedish Dental Association has made Mr. A. E. Rowlett an honorary member. Mr. Rowlett is Hon. Treasurer of the International Dental Federation and is well known in Canada for his splendid work in the interests of dental Empire affiliations.

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### Instruction for Dental Attendants

A course of instruction for dental attendants, arranged by the directors of the East-

man Dental Clinic, started on February 1, and is to extend over a period of three months. The course is intended to provide training for women who desire opportunities to work as dental attendants, either for local authorities or with private practitioners.

*AUSTRALIA:*

**Dental Congress**

"Since the Great War, the dental profession in Australia has breasted a number of hills in its march of progress. It can now boast of a record of which it can be reasonably proud. We have organized clinics for school and pre-school children, we have encouraged dental ante-natal treatment, we have fostered public dental education, we have greatly improved our University training, and we have built up the best Naval Dental Service in the world." These are the words of the Professor of Dental Science in one of our Australian universities. They constitute a simple presentation of actual fact, yet state a fine record of achievement that must be carried forward, or present day members of the profession will scarcely be worthy of their predecessors. At the next Congress, to be held in Melbourne in August, 1939, a fresh balance-sheet of progress will be submitted, and substantial dividends in knowledge will be declared for every dentist that attends. In each section of the Congress—and there will be many—new ideas will be given out, original methods of technique and the latest systems of practice management will be presented and discussed. Those who join the Congress and attend its meetings will assist in carrying dentistry still another stage forward, and will advance with it. Trade exhibits will be another educative factor. Don't miss Congress, 1939.

•

**Dental Research in Australia**

A special committee appointed by the National Health and Medical Research Council will meet shortly at Canberra to devise a progressive scheme for the development of research in Australian dental schools. The scheme will be financed from an annual grant of £30,000 voted to the Research Council by the Federal Parliament.—*The Dental Magazine and Oral Topics, January,* 1939.

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**European Political Refugees**

At a meeting of the Dental Board of Victoria (Australia) held recently, the unanimous opinion was expressed by members of the Board that European political refugees, who had not completed a full dental course of at least four years' training in a British university recognized by the Board, should not be allowed to practise dentistry in Victoria.—*The Dental Magazine and Oral Topics, January,* 1939.

*INDIA:*

**Bill to Prevent Influx of Refugees**

A Bill to restrict the registration of aliens as medical practitioners, dentists, midwives and pharmacists has been passed by the State Council.

The Bill, it was admitted, was prepared at the request of the Ceylon branch of the British Medical Association in the interests of local practitioners. It aims at preventing an influx of refugee doctors from Austria and Germany.

Rarely, it is stated has the State Council passed a measure with such dispatch, the Bill having been introduced on November 9.

The measure leaves the final decision regarding the registration of alien doctors to the Governor, "on the recommendation of the Executive Committee for Health."

Aliens are those who are not British subjects.—*Indian Dental Journal.*

*SOUTH AFRICA:*

**Johannesburg Coronation Dental Infirmary**

An appeal has been launched to raise £10,000 to provide the equipment required for the Johannesburg Coronation Dental Infirmary. The Infirmary commemorates the Coronation of King George VI and Queen Elizabeth.—*D. Mag. and Oral Topics.*

# GENERAL NEWS

### Dominion Dental Council of Canada Time Table

### Annual Examinations June 1939

ALL EXAMINATIONS SHALL COMMENCE AT 9 A.M. STANDARD TIME

Monday, June 12—*Preventive Dentistry.*
Tuesday, June 13—*Operative Dentistry.*
Wednesday, June 14—*Prosthodontia,* Including Crown and Bridge, Full and partial Denture Prosthesis.
Thursday, June 15—*Oral Medicine.*
Friday, June 16—*Dental Surgery and Anaesthesia.*
Saturday, June 17—*Practice Management.*

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Monday, June 19—CLINICAL EXAMINATION AND DIAGNOSIS (At the convenience of the Clinical Examiner).

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The examinations will be held at the following centres:

University of Alberta, Edmonton—Mr. C. B. Taylor
University of Toronto, Toronto—Dr. Lloyd Davis
University of Dalhousie, Halifax—Prof. J. H. Johnstone
The examinations will be held at the following centres providing five or more candidates apply to write at that point.
University of Saskatchewan, Saskatoon—Mr. A. R. Weir
University of Manitoba, Winnipeg—Mr. W. J. Spence
University of New Brunswick, Fredericton—Mr. J. W. Sears
Prince of Wales College, Charlottetown—Dr. G. D. Steele

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CLINICAL EXAMINERS

Dr. J. C. Roberts, 807 McLeod Bldg., Edmonton, Alberta.
Dr. Arnold D. Mason, University of Toronto.
Dr. S. G. Ritchie, 36 South St., Halifax, N.S.
Dr. P. Winthrope, 316 Avenue Bldg., Saskatoon, Sask.
Dr. H. J. Merkeley, 611 Medical Arts Bldg., Winnipeg, Manitoba.
Dr. F. L. Miller, Fredericton, N.B.
Dr. A. W. M. Allan, Charlottetown, P.E.I.

CONSTITUTIONS AND APPLICATION forms may be obtained from the office of the Dean or his Secretary. All applications and fees should be in the hands of Dr. A. J. Brett, Secretary Treasurer of the D.D.C., 202 Kerr Block, Regina, Saskatchewan, on or before the 13th of May.

•

### Western Canada Dental Convention May 29-31

The Western Canada Dental Society, comprising the dentists of Manitoba, Saskatchewan and Alberta, convenes every two years. This year the Convention is being held in Winnipeg, May 29-31, and a very fine program is being planned. Five outstanding dentists from the East and South have agreed to appear as guest speakers. The ladies' program is also being given special consideration and dentists from far and near are invited to come to Winnipeg and bring their wives with them.

### War Veterans' Reunion

All dentists who served in the Great War in any capacity are invited to a Reunion Dinner during the Convention of the Western Canada Dental Society in Winnipeg, Monday, May 29, at 6 p.m.

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### Canadian Dental Association Research Committee

The Canadian Dental Association Research Committee desires to help any person who wants to do research on a dental problem. If you have such a problem and desire assistance, financial or otherwise, answer the questionnaire below and send it to the Secretary, Dr. Fred Husband, 2 Bloor Street East, Toronto, Ontario.

Name: .....
Address: .....
Degree: .....
Where graduated: .....
Post-graduate studies, if any: .....
Describe any research which you have done: .....
Make reference to any article you have published: .....
State in detail what your problem is: .....
Do you propose to carry on an investigation in conjunction with some institution?
If so, where? .....

—FRED HUSBAND, *D.D.S., Secretary.*

•

### American Dental Association Exhibit Golden Gate Exposition San Francisco, Cal.

American dentistry tells its story of dental health at San Francisco's Golden Gate International Exposition with, what many observers believe, is the most ambitious as well as one of the most practical scientific exhibits ever conceived, covering 1300 square feet and at a cost of $20,000.

Entering the exhibit, the visitor is confronted with the head of a beautiful girl, whose beauty changes before the eyes of the observer as her teeth change. An ingenious drum-like device inside the model head allows it to smile in turn with perfect teeth, crooked teeth, decayed teeth, an open bite, slovenly teeth and missing teeth.

Between each change the head disappears

and the visitor finds herself looking into a "magic" mirror, a master psychological touch which invariably makes the visitor look at her own teeth while waiting for the next smile from the model head.

The display points out that "Loveliness Depends on Health and Good Looks," adding that "Every Woman Knows That Beautiful Teeth Are a Personal Asset."

The second display recounts the history of dentistry in eighteen effectively coloured and illuminated trans-light pictures.

"Victims of Civilization," the subject of Display No. 3, portrays in hand coloured trans-lights the effect of the white man's diet on the teeth of primitive aboriginers of Australia and the primitive races of Africa, New Zealand, South America, North America and the Arctic. The material is based on studies of Dr. Weston A. Price, of Cleveland.

The fourth exhibit acquaints the visitor with the intricacies in manufacturing porcelain teeth, while the fifth display recounts the history and progress of denture making.

Travelling through the exhibit, the visitor's attention is attracted by an educational exhibit anent "Orthodontia," loaned by the University of California. Before and after face masks show crooked teeth and misshapen jaws and how the skill of the modern dentist can correct them. (Display No. 6.)

Display No. 7 drives home the ravages of decay. A three foot transparent tooth is electrically motivated to show how decay attacks the enamel, the softer dentine beneath and how it eventually attacks and kills the pulp, causing an abscess to form at the root end. It also shows how infection can be carried by the blood stream from the abscess to other organs of the body.

The centre exhibit, Display No. 8, shows alternately, by means of complicated and intricate lighting, a dental office of 1889 and a dental office of today. Display No. 9, shows how tartar on teeth can result in pyorrhea and emphasizes the importance of having the teeth scaled and polished by the dentist, regularly. Here, also, the visitor learns how poisons from oral disease can undermine other parts of the body.

Exhibit No. 10 shows what modern dentistry can do in mouth reconstruction.

Displays No. 11 and No. 12 show the important role x-ray plays in dental health, stressing the necessity of having mouth x-rays at least every two years.

The keynote of modern dental care is sounded in Display No. 13 which deals with preventive dentistry. Preventive care is traced by means of beautifully coloured trans-lights through the pre-natal period to adulthood. It stresses the importance of diet, cleanliness and frequent dental attention.

A man's head, similar to the woman's head in Display No. 1, attracts the visitor at stop No. 14. Here, by the same drum-like arrangement which alternately shows good and various types of bad teeth, the visitor sees himself in the transparent mirror as the types of teeth change. The visitor is reminded, meanwhile, that "Efficiency Depends on Health and Intelligence" and that "Every Man Knows that Healthy Teeth Are a Business Asset."

Four additional exhibits are housed in floor cases in front of the exhibit proper.

Display No. 15 shows the phenomena of tooth eruption in model heads from the ages of from eight to ten months until the child is about eleven or twelve years. No. 16 is an exhibit of tooth carvings and models, portraying the long and exact period of training a dental student must go through before he is permitted to practice his art.

No. 17 is a complete study of dentures—both full and partial. Finally, but by no means the least important of the displays, is a series of facial masks, with and without dentures, stressing how the facial contour can change with missing teeth and how it can be restored to normal by the dentist.

In a prominent place in the exhibit, the American Dental Association has placed a question box, in which visitors can make inquiries that will be answered by the committee in charge.

Thus, the American Dental Association with the splendid co-operation of the California State and the Southern California Dental Societies; the San Francisco and the Alemeda County Dental Societies; and the dental manufacturers and dealers, tells the story of dental health to the millions who will visit the 1939 Golden Gate International Exposition at San Francisco. This unique and artistic exhibit of dentistry is another im-

portant step in educating the American people on the important role which the dentist plays in the promotion of personal, public and economic health.—*A. D. A. Release.*

•

### Public Health Aid Urged on Dentists

Dentistry must work out a program to meet the social demands confronting the profession, or "the dental profession will disappear into the clouds," Dr. Leroy M. S. Miner, Dean of the Dental School of Harvard University, yesterday told a luncheon of the Harvard Odontological Society held at the Hotel Pennsylvania in connection with the Greater New York Dental Meeting.

The public demand today for such social plans as public health work, he said, is not confined to lower income groups and "dentistry must take its responsibility in public health."

"If we work out our program before the government interferes the government will have no need to interfere."

Modified educational procedures may be found to be the answer to the problem, according to Dr. Miner. It should be the aim, he said, to meet the demand for boards of health, state and local. Harvard, he pointed out, has now established a postgraduate course in dental public health, with this demand in mind.

"Dentistry cannot be disassociated from any public health program," he said. He defended the profession of charges, which he said were formerly brought, of failing in social-mindedness, and cited the increasing interest of the profession in public health. "The education of the profession in dental public health is the answer to socialization," he said. —*New York City Times, Dec. 10, 1938.—A.D.A. Press Release.*

•

### Doctors Draft Insurance Plan to End Fees

Doctor insurance, entitling an individual to $150 worth of medical service for payments of one dollar a month, is about to be made available to New Yorkers.

Dr. Charles Gordon Heyd, former president of the American Medical Association, revealed for the first time details of the proposal in a talk before the Bronx Medical Society.

Sponsored by the State Medical Society and the American Medical Association, it will be put into effect early next year, following expected passage of an amendment to the State insurance laws, he said.

The medical indemnity insurance, modelled somewhat after the three-cents-a-day hospital plan, will be arranged to fit different purses.

Payments of $1 a month would give an individual a $150 credit on his doctor's bill, $2 a month would give him a $300 credit and $35 a year would entitle him to a maximum credit of $500.

The individual of average means could insure himself against the cost of an illness by paying $22 a year—$10 hospital insurance and $12 medical indemnity insurance.

The plan would apply to persons whose income exceeds $1,200 a year. Those in the lower brackets would be taken care of by taxes paid by the whole community, he said.

Persons entitled to $150 worth of medical care under the plan would not be at a disadvantage compared with those paying for a $500 policy, because of the medical tradition of doctors charging fees based on the patient's ability to pay.—*New York, N.Y. American, Dec. 22, 1938.—A.D.A. Press Release.*

•

### $25,000,000 in Dental Gold

Uncle Sam has sequestered the gold of the country in various underground storehouses, but a sizeable amount of it continues to be used, with governmental permission, in the arts, science and industry. No mean user of precious metals is dentistry itself; figures released last month show that the profession last year consumed 25 million dollars worth of gold, five million dollars worth of silver and platinum.—*Dental Survey.*

•

### Late Report on National Health Program

#### Health Program Given Congress by Roosevelt.

President Roosevelt today asked Congress to consider carefully a proposed national health program calling for ultimate medical aid expenditures of $850,000,000 annually after 10 years.

The President submitted to Congress the report of an interdepartmental committee,

which drafted a co-ordinated program that would place health activities on a national basis. He did not ask outright adoption of the proposed program.

He pointed out that the ultimate expenditures proposed by the committee were considerable, but said they would be a sound investment and predicted that increased health expenditures would operate to reduce costs of relief.

"The recommendations of the committee offer a program to reduce the risks of needless suffering and death," Mr. Roosevelt said, "and of costs and dependency, that now overwhelm millions of individual families and sap the resources of the nation."

Essence of the health program, the President said, is a plan for federal-state co-operation to be furthered by federal grants in aid to states to finance local programs. — *Chicago Daily News, Washington, January 23, 1939, (UP). —A.D.A. Press Release.*

•

### Decreasing Giving

The National Stewardship Movement in the U.S.A. presents some figures which have a very solemn message. It says: "In spite of an increase of more than 61% in our national income for 1936 over that of 1932, and with a cumulative increase of nearly forty-nine billions of dollars since 1932, the American public has *actually decreased* its gifts since 1932 for support of churches by 30%, general benevolence 29%, community chests 24%, and colleges 18%. Simultaneously, expenditures for jewelry, army and navy, theatres, cigarettes, automobiles, whiskey, radio, and beer, have soared to increases varying from 25% to 317%."

•

### Wagner Drafts Bill for Health Insurance

Senator Robert E. Wagner (D.), of New York, hailed as father of much of the New Deal's social legislation, yesterday announced that he will introduce a bill in the Senate soon calling for establishment of a national system of health insurance, involving hundreds of millions of dollars.

"I haven't completed drafting the bill yet," Wagner said, "but will do so in a few days and introduce it in the Senate. It is a good guess that the plan I will propose calls for administration by the Social Security Board."

He indicated that the bill was expected to provide a long-range program of expansion in the field of group health insurance on a national scale and under the guidance of the Federal Government.

Previous estimates on such a system have shown that the plan would call for an ultimate outlay of about $800,000,000, of which the States would pay a part.—*Washington, D.C., Herald, Jan. 4, 1939.—A.D.A. Press Release.*

•

### Utah Dentists Offer Contract

Utah's State Dental Association announced on January 14 a plan to provide dental work for any adult at an average of $10.00 a year for a five year contract. A payment of $20.00 will be made at the outset to cover the first and fifth year payments to insure against loss from breach of contract.

Groups of ten persons or more can receive yearly service on the basis of $1.00 a month per member.

A family of five or less, provided one member has an adult contract will be treated for an additional $15.00 a year. Additional members of a family of more than five will be admitted for $5.00 each annually. Children under 13 years will be admitted for $5.00 a year each in a program designed for schools and homes.

The service will consist of examination, prophylaxis, treatment of soft tissues, alloy fillings and extractions. All other work will be done at cost.—*Windsor Daily Star.*

•

### The Passing of The Dental Cosmos

With the publication of the December, 1938, issue of the Journal of the American Dental Association and The Dental Cosmos, the name Dental Cosmos ceased its association with the periodical literature of dentistry.

With the realization of dentistry's biological relation to the other branches of the healing art, there came a desire to divorce the professional literature from its commercial affiliations. In 1936 the Dental Cosmos, sensing this modern trend of journalistic

idealism, consented to the merging of the Dental Cosmos with the Journal of the American Dental Association. Since then dentistry's desire to absolutely divorce proprietory and professional efforts has resulted in the elimination of Dental Cosmos entirely from the literary field.

•

### Second Annual Summer Postgraduate Course in Fixed Bridge Work

**New York University College of Dentistry**

New York University College of Dentistry will offer its second annual postgraduate course in Fixed Bridge Construction for four weeks, mornings only, or for two weeks, full day, beginning June 5, 1939. The fee is $75. The course is limited to fifteen men.

For information and application blank, address the Office of the Dean, New York University College of Dentistry, 209 East 23rd Street, New York City.

•

### Bad Breath in Evanston

In Evanston, five members of the faculty of Northwestern University's Dental School have established a halitosis clinic in which they are attempting to discover the cause of bad breath. pO, the designation they have given to odour concentration, is being measured by an instrument called the osmoscope. Thus far they have discovered that 44 per cent of Northwestern's handsome men, beautiful coeds, have bad breath to an offensive degree. pO content, they find, increases with age, is higher in the morning and after meals.—*Dental Survey.*

•

### Sixth Annual Postgraduate Course in Periodontia

New York University College of Dentistry will hold its sixth annual postgraduate course in Periodontia for two weeks, full day, or three weeks, part time, beginning June 19, 1939. The fee is $100. Course is limited to fifteen men. Preference will be given in order of receipt of application.

For information and application, address the Periodontia Department, New York University College of Dentistry, 209 East 23rd Street, New York, New York.

## IN MEMORIAM

The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**Albert John Wyckoff,** of London, Ontario, aged 65, died February 2. He practised in Toronto until 1900 then moved to London. He became active in municipal affairs and for some years served on the Board of Education.

Dr. Wyckoff is survived by his son, two sisters and three brothers.

•

**J. A. C. Arbuckle,** of Toronto, Ontario, died February 15 in St. Michael's Hospital, from pneumonia. He was born in Ottawa, where he was educated and conducted a practice before coming to Toronto. He had practised also in Hamilton. He attended the United Church.

Dr. Arbuckle is survived by two sons.

**W. W. McPhee,** of Orillia, Ontario, aged 72, died February 10. He was graduated in 1890 from the Royal College of Dental Surgeons of Ontario. He retired from active practice several years ago.

•

**Joseph Lewin Payne,** of London, England, died suddenly January 31, aged 66. As we go to press the sad news reaches us of the passing of Mr. Payne, one of our faithful and distinguished correspondents of the Journal of the Canadian Dental Association in Great Britain. Further reference will be made to this in the next issue of our Journal.

## . . . SECTION FRANÇAISE . . .

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# *Sainte Apolline, vierge et martyre*

***Patronne des chirurgiens-dentistes.***

## (fêtée le 9 février)

par PAUL E. POITRAS, D.D.S.

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LE MOT légende du gérondif latin "legendum", chose à lire, avait au moyen-âge une signification différente d'aujourd'hui. La légende était la vie du saint dont on célébrait l'office. Cette vie était lue aux matines et dans le réfectoire des monastères. (1)

La légende a grandi dans l'âme populaire et s'est transmise de génération en génération. Le moyen-âge mystique s'est laissé enchanter par les récits que ses prêtres lui lisaient aux offices. Les vies de ses saints avaient des allures de romans, le peuple les croyait vraies parce qu'il les savait possibles.

Les clercs et les jeunes moines, qui devaient se perfectionner dans l'art oratoire, avaient la liberté de s'exercer à des amplifications latines sur le martyre d'un saint. Ces moinillons, d'une naïveté sensible, d'une humanité simple et bonne, aimaient le merveilleux; ils racontaient cette vie, dont ils avaient altéré plus ou moins la vérité, avec un réalisme débordant de poésie et de foi radieuse.

Tout d'eux aujourd'hui nous bouleverse mais alors met en joie une population simple et croyante.

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(1) Pierre George Roy.

Une multitude de chefs-d'oeuvre furent de la sorte créés qui, conservés dans les bibliothèques des couvents, furent pendant des siècles considérés comme des actes authentiques.

A cause justement de cela, il faut remonter à l'origine des légendes avec un tact extrême; il faut juger dans quelle mesure la tradition populaire l'emporte sur la tradition historique; il faut compter avec l'imagination de la foule et celle des hagiographes.

Mais il serait imprudent de tout rejeter en bloc. Sous les enjolivements de la légende souvent nous retrouvons des faits authentiques, attestés par des témoins dignes de foi.

Toujours sage, l'Eglise, ne voulant pas fausser la vérité par ces récits auxquels la légende, la tradition, l'histoire avaient ajouté plusieurs faits, passa, au crible de sa sevère critique, ces narrations pour débrouiller le réel de l'imaginaire et retrancher de sa liturgie les exagérations qui s'y étaient glissées.

La vie de sainte Apolline, dont la dévotion est répandue dans tous les pays catholiques où elle est honorée par tous ceux qui souffrent du mal de dents, est un bel exemple de légende.

Saint-Denys, élu patriarche d'Alexandrie en 248, est l'historien de sainte Apolline. Il raconte qu'elle était une vieille femme d'Alexandrie, vierge admirable, toute éclatante de pureté et de charité. Ses persécuteurs lui donnèrent tant de coups sur le visage et les joues qu'ils lui brisèrent la mâchoire et les dents. Forcée de sacrifier aux dieux, elle préféra se jeter dans un brasier et mourir martyre que de renoncer à sa foi.

Malgré sa simplicité et sa grandeur, ce récit ne pouvait pas, au moyen-âge, satisfaire tout un peuple avide de foi et d'amour.

Jean Baptiste Mantuana, (1448-1516) poète latin et général des Carmes, ne manqua pas de parer sainte Apolline de toutes les magnificences qui rehaussent l'éclat de la jeunesse, de la beauté et des richesses dans les vers suivants:

Hic erat ut fama, atavissima Regibus inter
Niligenas forma proestans Apolonia nymphas
Splendida majorem titulis in murice et auro
Et magnis nutrita opibus.

"On dit qu'Apolline était de sang royal. La plus belle parmi les femmes nées sur le bord du Nil. Illustre par ses ancêtres elle fut élevée dans la pourpre, l'or et les richesses."

A la même époque, Jean Baulier d'Augsbourg en Bavière, donne une autre version.

Sainte Apolline, née de parents païens: l'empereur Eusèbe et l'impératrice Jatinia, fut élevée par la pieuse Pénélaupe; convertie au christianisme, elle se retira, encore jeune, dans une tour garnie de meubles d'or rouge, ayant à son service douze vierges sous la surveillance d'Embilianus, vieillard sage et vertueux; comblée de richesses par son père et ses frères, sa générosité ne connut jamais de borne et ne se donna de repos que lorsqu'elle eut distribué tous ses biens aux pauvres.

En l'an 249, sous Philippe l'Arabe, elle alla sur le forum d'Alexandrie où Divinius, préfet romain, rendait la justice et lui reprocha de persécuter les chrétiens. Divinius ordonna son arrestation pour athéisme, c'est-à-dire pour infidélité aux dieux de Rome, il lui fit briser les dents avant de la faire brûler; durant tout son martyre elle ne cessa pas de chanter les louanges de Dieu.

D'autres auteurs, voulant donner un décor plus connu, placent le martyre de la sainte à Rome, sous Julien l'Apostat, en l'an 135.

Jamais l'humble vierge d'Alexandrie n'a revêtu de pareils atours ni a posé sur sa tête la couronne royale. Je ne trouve rien de plus exquis ni de plus surnaturel que cette femme prédestinée, chaste et mystique distribuant ses biens aux pauvres. On com-

prend le plaisir mêlé de piété qu'ont pris ses historiens à rendre si parfaitement belle celle qui immola l'amour humain à l'amour divin; qui plaida la cause de la vérité au mépris de la mort.

A la date du 9 février, nous lisons dans "Acta Sanctorum" des Bollandistes:

> "Acta ut videtur apocripha, Sancta Apolloniae virginis
> "et martyris Romanae": . . . . . .
> "Sainte Apolline, romaine, vierge et martyre est connue par
> des documents apocryphes."

Le bréviaire d'un grand nombre de diocèses, au neuf février, possède un "Officium proprium" de sainte Apolline où il y a des oraisons implorant la sainte de guérir les dents malades et de conserver les autres saines.

Dès le VIe siècle, la médecine était du ressort des religieux plus que des hommes de l'art. Ceux-ci n'avaient pas disparu, mais la croyance populaire voyait volontiers dans les maladies une punition du ciel ou l'oeuvre des démons. Dès lors, le remède logique résidait bien plus dans les prières, l'eau bénite et les saintes huiles que dans tous les autres médicaments. Si les médecins pratiquent la saignée, les pointes de feu, appliquent les ventouses, emploient les vésicatoires, les saints par charité, imposent les mains, supplient le Seigneur et obtiennent ainsi la guérison ou le soulagement du malade. Certains clercs, réputés pour leur piété, accomplissaient ainsi de telles guérisons que leur renommée s'étendait au loin et que de toutes parts les malades affluaient pour recevoir d'eux le soulagement de leurs maux. (2)

D'autres malades, eux aussi animés d'une foi vive, préféraient implorer directement les saints du Paradis. De là, sont nées de nombreuses incantations.

Cervantes, au chapitre VII, tome 88, de Don Quichotte de la Manche témoigne de la foi des espagnols à sainte Apolline. La gouvernante de Don Quichotte voyant que son maître veut se lancer de nouveau dans les aventures va prier le bachelier Samson Carrasco de l'en dissuader. "—Eh bien, ne vous mettez pas en peine: retournez tranquillement chez vous, et tenez-moi quelque chose de chaud à manger. Chemin faisant, récitez l'oraison de sainte Apolline, si vous la savez; je vais vous suivre, et vous verrez merveille.—Malheureuse que je suis! répliqua la gouvernante; ne me dites-vous pas de réciter l'oraison de sainte Apolline? Ce serait bon si mon maître avait mal aux dents; mais c'est à la cervelle seulement qu'il a mal. —Je sais ce que je dis, dame gouvernante; allez, et ne vous mettez pas à disputer avec moi: vous savez que je suis bachelier de Salamanque."

L'incantation suivante, donnée sous forme d'un dialogue entre Jésus et sainte Apolline, rappelle bien la foi sincère et naïve du moyen-âge:

> Sainte Apolline
> La divine
> Assise au pied d'un arbre
> Sur une pierre de marbre
> Jésus notre Sauveur
> Passant là par bonheur
> Lui dit: "Apolline
> Qui te chagrine?"
>
> —"Je suis ici, maître divin,
> Pour douleur et non chagrin,
> J'y suis pour mon chef, pour mon sang
> Et pour mon mal de dents."
> —"Apolline, tu as la foi,
> Par ma grâce, retourne-toi,
> Si c'est une goutte de sang, elle cherra,
> Si c'est un ver, il mourra." (3)

La réclame, ne cédant jamais ses droits, ne manqua pas d'exploiter, à son profit, les pouvoirs miraculeux de sainte Apolline.

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(2) La civilisation sauvée. R. Barroux.
(3) Folklore of the Teeth.—Leo Kanner, M.D., page 178. The Macmillan Co., N.Y., 1928.

Cantique. (Extraits.) Publicité du XVIIIe siècle.

Venez en diligence,
Peuple accourez tous
Pour voir la délivrance
Qu'opérera dans vous
Apolline fidèle
A son Dieu créateur

Des gens impitoyables
Lui arrachent les dents
O spectacles effroyables!
Les yeux pareillement. . .

Beautés enchanteresses
Dont les charmes vainqueurs
Savent avec adresse
Captiver tous les coeurs
Un vain et faible hommage
Vous plaît, vous satisfait;
Apolline plus sage
N'a que Dieu pour objet. . .

Prions sainte Apolline
Qu'elle invoque pour nous
La clémence Divine
Pour nous préserver tous
De tant de maux étranges. . .

De crainte que quelque mal intentionné ne veuille contrefaire la dite pierre, le. sieur Mercier a l'honneur de vous avertir qu'il la distribue lui-même, ou à son domicile, rue des Coquilles, dans la maison du Sr. Bureau, Bourgeois à Paris. (a)

Les pauvres sont bien venus chez lui; il a encore quelques petits remèdes à leur service. (B.N. Te 151, 1013) Beaume d'acier No. 36. Page XII.

Les reliques de sainte Apolline sont nombreuses et sont vénérées avec ferveur par tous les malheureux dont la denture est plus ou moins saine à cause de leur vertu curative et même préventive.

L'Italie, l'Espagne, le Portugal, la France, la Belgique, l'Allemagne, où il existe plusieurs sanctuaires consacrés à sainte Apolline, (4) conservent avec un soin jaloux soit de ses dents soit des parties de son squelette. Il est évident que toutes ces reliques ne sont pas authentiques puisque nous pouvons compter plus de trente-deux dents et plusieurs mandibules.

Les images et les peintures de sainte Apolline, (5) possédées par les chirurgiens-dentistes, sont nombreuses: elle est représentée ordinairement sous les traits d'une jeune vierge ayant comme attributs des dents, des tenailles, un bûcher, parfois attachée à une colonne et martyrisée ou encore guérissant des malades.

Ces malades l'eurent d'abord pour patronne mais les chirurgiens-dentistes se la sont appropriée avec raison: n'est elle pas la sainte thaumaturge guérissant l'odontalgie?

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(a) Le Sr. Mercier vendait une pierre guérissant les maux de dents, le mal de tête, le mal d'yeux, abcès, dépôt, humeur, etc.

(4) Dans le Québec, il n'y a qu'une seule paroisse: Sainte Apolline de Patton, comté de Montmagny.

(5) Ma collection compte 26 reproductions de notre patronne. Celle du Dr. Morris Mestel de New York en compte au delà de 450.

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## *Four à porcelaine*

Après la mort du docteur Pinault, un confrère a dû hériter directement ou indirectement d'un four à porcelaine en voie de construction. Assuré que le possesseur ne peut terminer ce travail sans le concours de celui qui en a fait les plans, nous le prions de se mettre en relation avec la rédaction.

# l'Orthodontie *(suite)*

par PAUL GEOFFRION, B.A., D.D.S., A.I.D.O. (R.A.)

*Membre de l'Académie Internationale d'Orthodontie; Professeur Titulaire d'Orthodontie de l'Université de Montréal.*

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## Bareme De Pont

| Diamètre des quatre incisives supérieures | Distance des centres des premières prémolaires | Distance des centres des premières molaires |
|---|---|---|
| 20 | 25 | 31 |
| 20.5 | 25.5 | 32 |
| 21 | 26 | 32.5 |
| 21.5 | 26.5 | 33 |
| 22 | 27.5 | 34.3 |
| 22.5 | 28.1 | 35.3 |
| 23 | 28.7 | 35.9 |
| 23.5 | 29.5 | 36.5 |
| 24 | 30 | 37.5 |
| 24.5 | 30.5 | 38.2 |
| 25 | 31 | 39 |
| 25.5 | 32 | 39.8 |
| 26 | 32.5 | 40.9 |
| 26.5 | 33 | 41.5 |
| 27 | 33.5 | 42.5 |
| 27.5 | 34 | 42.9 |
| 28 | 35 | 44 |
| 28.5 | 35.5 | 44.5 |
| 29 | 36 | 45.3 |
| 29.5 | 37 | 46 |
| 30 | 37.5 | 46.8 |
| 30.5 | 38 | 47.6 |
| 31 | 39 | 48.4 |
| 31.5 | 39.5 | 49.2 |
| 32 | 40 | 50 |
| 32.5 | 40.5 | 50.80 |
| 33 | 41 | 51.5 |
| 33.5 | 42 | 52.3 |
| 34 | 43 | 53 |
| 34.5 | 43.5 | 53.9 |
| 35 | 44 | 54.5 |
| 35.5 | 44.5 | 55.6 |
| 36 | 45 | 56 |
| 36.5 | 45.7 | 57 |
| 37 | 46.2 | 57.8 |
| 37.5 | 47 | 58.5 |
| 38 | 47.50 | 59 |
| 38.5 | 48.1 | 60 |
| 39 | 4812 | 60.5 |
| 39.5 | 4913 | 61.3 |
| 40 | 50 | 62.5 |

N.B. — Ces distances, dans les arcades normales, sont moindres que celles indiquées dans ce tableau. Elles ont en réalité 1 à 2 millimètres de moins; surtout dans la région des molaires. Il ne faudra donc pas s'y fier rigoureusement. Elles sont cependant assez justes pour nous indiquer de façon certaine le degré de CONTRACTION ou de DISTRACTION d'une arcade.

## Tableau De L'indice De Pont

corrigé par Korkhaus

| Diamètre des quatre incisives supérieures | Distance des centres des premières prémolaires | Distance des centres des premières molaires |
|---|---|---|
| 27 | 32 | 41.5 |
| 27.5 | 32.5 | 42.3 |
| 28 | 33 | 43 |
| 28.5 | 33.5 | 43.8 |
| 29 | 34 | 44.5 |
| 29.5 | 34.7 | 45.3 |
| 30 | 35.5 | 46 |
| 30.5 | 36 | 46.8 |
| 31 | 36.5 | 47.5 |
| 31.5 | 37 | 48.5 |
| 32 | 37.5 | 49 |
| 32.5 | 38 | 50 |
| 33 | 39 | 51 |
| 33.5 | 39.5 | 51.5 |
| 34 | 40 | 52.5 |
| 34.5 | 40.5 | 53 |
| 35 | 41 | 54 |
| 35.5 | 42 | 54.5 |
| 36 | 42.5 | 55.5 |

## Technique De L'indice Dentaire De Pont

1.—Avec un millimètre (Bowley Gage) dont les bouts sont très pointus, on mesure les diamètres mésio-distaux des incisives centrales et latérales. Cette mesure est prise à la partie la plus large des dents.

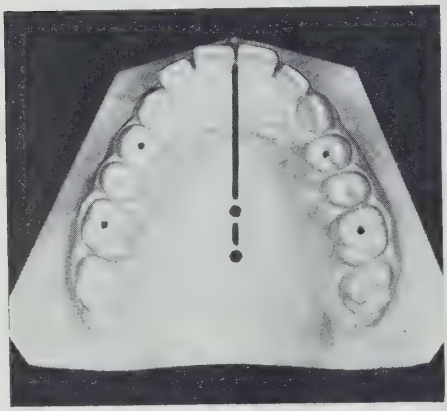
2.—Le diamètre total des quatre incisives étant additionné, on se rapporte au chiffre correspondant de la colonne 1.

3.—Partant de ce chiffre on se rapporte maintenant à la colonne 2 qui indique la distance normale qui devrait exister entre le centre de la première prémolaire gauche et le centre de la première prémolaire droite.

4.—On passe ensuite à la colonne 3 qui indique la distance normale qui devrait exister entre les centres des premières molaires.

5.—Connaissant maintenant l'indice normal des prémolaires et des molaires on se rapporte au modèle dont on veut connaître le degré de CONTRACTION ou de DISTRACTION et on mesure sur celui-ci la distance entre les centres des premières prémolaires et des premières molaires. Si les chiffres donnés par ces mesures sont moindres que ceux du Barême de Pont, il y aura CONTRACTION. Si les chiffres donnés sont plus que ceux indiqués par le même tableau il y aura DISTRACTION.

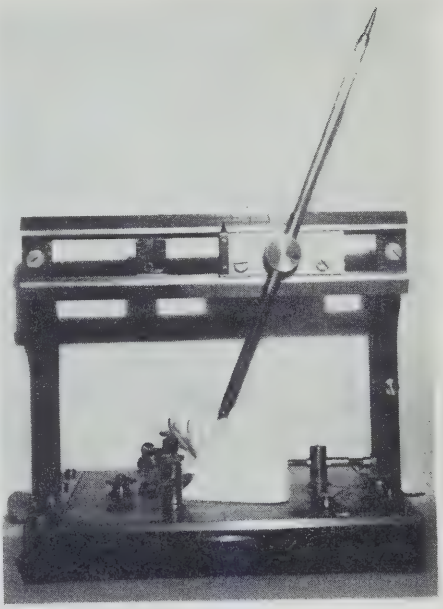
6.—Si l'on veut pousser plus loin les recherches afin de savoir si la CONTRACTION ou la DISTRACTION est SYMETRIQUE ou ASYMETRIQUE il faut alors séparer le modèle par une ligne tracée sur le RAPHE MEDIAN. (Figure 19 de X à Z).



**(Fig. 19 de X à Z)**
*Ligne tracée sur le Raphé Médian*

Une fois cette ligne tracée il suffira de mesurer la distance du centre de la première prémolaire et de la première molaire droite à la ligne du RAPHE MEDIAN et la distance du centre de la première prémolaire et de la première molaire gauche à cette même ligne.

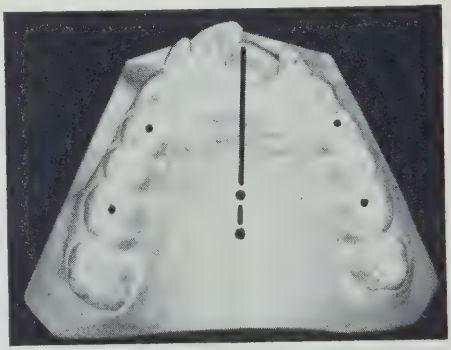
Si les chiffres donnés ne sont pas les mêmes des deux côtés, nous aurons une



**(Fig. 20)**
*Symétrographe de Kokhaus*

CONTRACTION ou une DISTRACTION ASYMETRIQUE. Si ces chiffres sont les mêmes nous aurons une CONTRACTION ou une DISTRACTION SYMETRIQUE.

La ligne du RAPHE MEDIAN qui se termine au POINT INCISIF (Figure 19 de X à Z) et que l'on voit très bien



**(Fig. 21)**
*Ligne tracée sur le Raphé Médian et qui vient se terminer au milieu de l'incisive centrale.*

sur le modèle, peut-être tracée sans le secours d'aucun instrument spécial; il suffit avec une mine bien pointue d'inscrire deux points à l'endroit ou celui-ci est le plus visible, c'est-à-dire dans la région des premières molaires et deuxièmes prémolaires et de tracer une ligne droite qui après avoir coupé ses deux points vient se terminer au bord incisif. Cette ligne peut se terminer entre les deux centrales, mais elle pourra dans certains cas se terminer à côté; ce qui nous indiquera toujours la déviation des centrales soit dans le sens mésial ou distal. (Figure 21).

Cependant il est toujours préférable pour faire le tracé du RAPHE MEDIAN, de se servir d'un SYMETROGRAPHE, soit celui de SIMON ou de KORKHAUS.

Pour ce faire on place le moulage à diviser dans le SYMETROGRAPHE, qui est un instrument composé d'une base supportant une glissière verticale ou coulisse, un pointeau ne pouvant se déplecer que dans le plan vertical.

Le moulage étant fixé par quatre vis dans la position ou le RAPHE MEDIAN correspond exactement au plan de la glissière, on y trace avec le pointeau le plan correspondant, c'est-à-dire le plan du RAPHE MEDIAN (Figure 20).

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# *Revue des Revues*

**par Paul Geoffrion, B.A., D.D.S., A.I.D.O.**

## "LA MALADIE HEMORRAGIQUE: SON APPLICATION A L'ART DENTAIRE"

**par le Dr. André Dreyfus**

L'auteur après avoir écrit que l'hémorragie est à juste titre redoutée par les dentistes, nous décrit d'abord le mécanisme de l'hémostase normale qui s'effectue toujours en trois temps.

Le 1o temps, temps pariétal c'est-à-dire contraction de la paroi du vaisseau traumatisé; cette contraction est passagère et elle est insuffisante le plus souvent à assurer l'hémostase.

Le 2o temps de l'hémostase est assumé par les plaquettes; celles-ci en effet, vont s'accoler à la plaie vasculaire que s'est déjà contractée au 1er temps et vont colmoter ainsi l'ouverture du vaisseau, mais ce faisant elles éclatent et en libérant les ferments qu'elles contiennent, ceux-ci vont provoquer la coagulation du sang. De ces trois temps, le plus important est le second, puisqu'il conditionne la coagulation, tardive mais seule capable d'assurer une hémostase solide.

L'hémostase normale comportant 3 temps, il est donc logique qu'elle soit troublée de 3 manières 1o—Lorsque le 1er temps ne peut pas se produire, c'est-à-dire lorsque la contraction nécessaire à assurer l'hémostase du capillaire lésé ne se produit pas, il y a hémorragie immédiate importante mais rapidement tarie si le 2ème et le 3ème temps s'effectuent normalement.

2o—Si le second temps s'effectue imparfaitement, l'hémorragie commence au bout de quelques secondes; elle ne cesse de s'accroître et atteint rapidement un degré important; rien ne l'arrêtera puisque le temps suivant, la coagulation, ne se produira pas non plus. De ces trois temps, le plus important est le second car il est l'agent le plus habituel des hémorragies rencontrées dans la pratique courante.

Après avoir étudié longuement la pathologie de l'hémostase l'auteur passe ensuite à l'étude du diagnostic du syndrome hémorragique, et hématologique des troubles de l'hémostase.

Dans le diagnostic du syndrome hémorragique, plusieurs cas peuvent se présenter et voici comment on peut déceler cette tendance à l'hémorragie.

1o—"Le malade est un HEMOPHILE VRAI; c'est exceptionnel; à peine y a-t-il 50 hémophiles vrais dans tout Paris et vous n'avez rien à craindre car il vous avertira aussitôt de son infirmité; vous n'aurez qu'à vous adresser au spécialiste qui, par des transfusions, vous mettra à même d'effectuer sans danger l'intervention que vous vous proposez."

2o—"Le malade présente des ANTECEDENTS HEMORRAGIQUES CONNUS: chaque intervention, dentaire ou autre, qu'on aura eu l'occasion de pratiquer sur lui, aura entraîné des complications hémorragiques; là encore le malade vous préviendra presque toujours et vous pourrez prendre vos précautions."

3o—"Le malade n'attire pas votre attention sur les troubles hémorragiques, mais un INTERROGATOIRE tant soit peu poussé vous permet de les déceler facilement: le malade saigne facilement, du nez par exemple, il remarque souvent sur son corps des "bleus", sans se souvenir d'aucun traumatisme notable; si c'est une femme, elle aura des règles extrêmement abondantes, de véritables hémorragies; en pareil cas, n'hésitez pas à pratiquer ou à faire pratiquer les quelques examens nécessaires, vous vous mettrez à l'abri de graves ennuis."

4o—"Dans d'autres cas, vous ne trouvez AUCUN ANTECEDENT HEMORRAGIQUE mais des SIGNES INDIRECTS que vous devez bien connaître car ils ont la même valeur; les malades atteints d'altération thrombocytaires—nous savons maintenant l'importance de cette altération—sont souvent de PETITS HYPOPHYSAIRES; vous rechercherez chez eux, la LAXITE ARTICULAIRE—ils se tordent les pieds facilement—, la CELLULITE en ses 2 points d'élection, les jambes, la région cervicale: ils ont les jambes lourdes, des migraines fréquentes. D'autres fois ce sont de PETITS HEPATHIQUES: digestion difficile, nausées avant les repas, diarrhées pendant ou après les repas, somnolence après le repas, dégoût pour les graisses, etc. Souvent aussi ces malades manifestent quelques troubles qu'on peut rattacher à la DIATHESE D'INTOLERANCE: eczéma, urticaire, asthme, diabète; on aurait dit naguère que se sont des ARTHRITIQUES. Chez tous ces malades il est prudent de pratiquer les examens sanguins qui décèleront des troubles de l'hémostase, plus fréquemment qu'on ne l'imaginerait."

5o—Enfin, vous saurez que vous avez à redouter de graves altérations de la coagulation chez les GRANDS HEPATHIQUES, ICTERIQUES, CIRRHOTIQUES, etc.; mais bien évidemment on ne songe pas à se faire extraire une dent quand on a la jaunisse.

L'auteur expose ensuite les procédés hématologiques et chimiques qui permettent le diagnostic de l'hémorragie et insiste particulièrement sur l'examen qualitatif des plaquettes et des modifications qualitatives; chez l'homme il faudra considérer comme suspect et traiter préventivement tout individu chez qui la proportion des plaquettes s'élève à 40% et au dessous; chez la femme, de 16 à 50 ans il faut tenir compte de plusieurs facteurs et il faudra pratiquer les interventions et les examens du sang pendant les deux semaines qui suivent les règles, les proportions indiquées pour les hommes sont alors valables.

"Si l'on est obligé d'intervenir à d'autres moments, il faut éviter si possible, les deux jours qui précèdent et les deux jours qui suivent le début des règles et ne tenir compte que de très grosses anomalies, plus de 60% de plaquettes rondes, à deux examens pratiqués à 1 ou 2 jours d'intervalle."

Cet examen qualitatif étant fait il faut maintenant faire la mesure du temps de coagulation par le procédé de la seringue.

Ce procédé consiste à prélever 1 cc. de sang dans une seringue de 10 cc. parfaitement propre et sèche; la seringue étant posée à plat sur une table, on aspire de l'air jusqu'à la division 10 et toutes les 30 secondes on fait tourner la seringue de 180

degrés autour de son axe longitudinal. Tant que le sang n'est pas coagulé, il ne suit pas la rotation et demeure à la partie déclive de l'instrument; quand le sang se coagule, il reste adhérent au verre et suit la paroi de la seringue au moment où on lui imprime la rotation décrite ci-dessus. Avec ce procédé, le temps de coagulation normal est de 3 à 4 minutes dans une seringue de verre ordinaire, de 8 à 9 minutes dans une seringue en verre Pyrex.

De cette enquête chimique et hématologique le praticien tirera les renseignements suivants:

1o—"Il y a des antécédents cliniques hémorragiques et les signes hématologiques sont négatifs: vous pouvez intervenir sans préparation particulière, veillez seulement à l'hémorragie immédiate, laissez, par exemple, quelques minutes en place un tamponnement hémostatique."

2o—"Les signes hématologiques sont positifs: il convient alors, même en dehors de tout antécédent clinique net, de préparer votre malade; mais la nature de ce traitement prophylactique dépendra des résultats des examens de laboratoire:"

a)—"Il existe des altérations morphologiques des plaquettes, le temps de coagulation étant ou non allongé; vous devez alors soumettre votre malade à la thérapeutique acide, dont je vous exposerai tout à l'heure les modalités."

b)—"Il existe une altération isolée du temps de coagulation; il faut de toute nécessité pratiquer une transfusion avant d'intervenir."

3o—"Vous avez négligé de faire les recherches que je vous ai indiquées et vous êtes surpris par une hémorragie: vous devez alors après avoir assuré l'hémostase par un traitement local, effectuer ces recherches pour pouvoir appliquer le traitement qui convient." En effet, gardez-vous de croire qu'on peut appliquer indifféremment tous les traitements hémostatiques; s'il existe une altération des plaquettes, la transfusion est presque toujours inutile et souvent elle peut déclancher de violentes réactions dont la moins redoutable n'est pas l'apparition de nouveaux phénomènes hémorragiques. Au contraire, en cas de troubles isolés de la coagulation, le traitement acide est non seulement inefficace mais relativement dangereux; seule la transfusion agit et agit rapidement."

Enfin l'auteur expose ensuite le traitement de chacun des troubles du mécanisme hémostatique.

1o—"S'il existe une altération des plaquettes vous devez instituer le traitement acide dont les modalités ont été fixées par mon maître Tzanck et par moi-même: instillation intra-veineuse de sérum isotonique ionisé à pH 4, 5 (solution d'acide lactique) 200 cc. en goutte à goutte lent; 24 heures après, nouvel examen de sang; si le changement est appréciable mais non suffisant, on injectera, de la même manière, 200 cc. de sérum à pH 5; sinon, on recommencera comme précédemment; de plus, le malade absorbera par la bouche, toutes les 3 heures, une ampoule d'une préparation contenant des phosphates diacides ou de l'acide phosphorique dilué; cette absorption buccale sera poursuivie au même rythme jusqu'à la fin des suites opératoires et diminuée ensuite progressivement.

2o—En cas de troubles de la coagulation, on pratiquera avant l'intervention, soit une petite transfusion de 100 cc. au maximum, soit l'injection intra-musculaire de sang provenant d'une personne saine.

Si on a été surpris par l'hémorragie, il faut, malgré ses inconvénients, recourir au tamponnement et de préférence utiliser un tampon imprégné de venin de serpent (fer de lance ou vipère Daboia) mais il faut, de toute nécessité, que ce tamponnement soit mis en contact avec les capillaires qui saignent et, par conséquent, que vous ayez soigneusement enlevé les caillots qui obstruent la cavité sans assurer cependant une hémostase convenable. Dès ce tamponnement mis en place et aussitôt l'hémorragie arrêtée, vous devez vous livrer à la même enquête et pratiquer comme je vous l'ai dit la même thérapeutique que prophylactiquement; vous pourrez, alors, une fois

les troubles hématologiques corrigés, enlever le tamponnement sans craindre les hémorragies tardives si fréquentes au moment de l'ablation du tamponnement."

*(La Revue Odontologique, livraison de décembre 1938.)*

"INFECTION DE VINCENT"

NOMS DONNES A L'INFECTION DE VINCENT.—Trench mouth, Stomatite ulcéreuse, angine de Plant, stomatite ulcéro-membraneuse, cancrum oris, ginvite ulcéromembraneuse.

SYMPTOMES LOCAUX.—Fétidité de l'haleine, gingivite nécrosée, ulcération, mal de gorge.

SYMPTOMES GENERAUX.—Fièvre, malaise, constipation, fatigue, maux de tête, perte de l'appétit. Le premier symptôme consiste dans une rougeur marquée. de la gencive suivie d'enflure et de douleur.

AGE.—Le jeune adulte est plus enclin à cette infection que l'enfant.

PROGNOSTIC.—Toujours favorable à condition d'avoir la coopération du Patient. Cependant si le traitement est discontinué trop tôt, l'infection reviendra.

REMEDES RECOMMANDES.—1o—SPIRILLICIDES tels que; Néoarsphénamine en solution de 2.5 à 10 pour cent dans de la glycérine. Cette solution est appliquée sur la muqueuse asséchée et laissée en place durant 5 à 10 minutes. L'application doit être faite de deux a trois fois par jour. Arsphénamine, solution de 2.5 à 10 pour cent dans glycérine. En application.

2o—CAUSTIQUES.—Les remèdes caustiques employés pour guérir l'infection de Vincent sont nombreux mais ne sont pas à recommander à cause de leur action néfaste sur la gencive. Les plus employés sont le phénol, à 95 pour cent en application. Le Nitrate d'argent, 35 pour cent en application. L'acide chromique à 10 pour cent en application. L'acide trichlorocétique concentré en application. Lorsque l'on emploie l'acide chromique il faudra toujours protéger la dent et neutraliser à l'iode.

3o—AGENTS OXYDANTS. Peroxyde d'hydrogène pur ou dilué; en gargarisme ou en application locale. Poudre de chloragène aromatique en gargarisme. Permanganate de potasse 1;1.000 en gargarisme.

4o—BACTERIOSTATIQUES.—VIOGEN, 1 gm de crystal violet plus 1 gm de vert brilliant dans 100 cc. d'alcool à 50 pour cent; en application une fois par jour.

METAPHENE, 1:1.000 en gargarisme. Merthiolate, 1:1000, 1:5.000 en application.

Le perborate de soude est un remède qui doit être employé par le dentiste seul. Celui-ci doit faire une pâte épaisse composée de Perborate de soude et d'eau et l'appliquer sur les parties malades à chaque visite du patient. La pâte doit rester en place cinq minutes durant. Le perborate, à cause de son action néfaste sur les tissus, ne doit jamais être mis entre les mains du patient qui souffre d'Infection de Vincent.

Comme gargarisme à la maison on conseillera plutôt le peroxyde d'hydrogène, une solution d'acide borique aussi chaude que possible. Les dentifrices contenant surtout du savon doivent être employés. Il sera aussi défendu de fumer, de prendre de l'alcool ou du vinaigre. Tant qu'aux aliments ils devront être très riches en vitamines.

Dans certains cas chroniques on pourra conseiller une solution d'arséniate de potasse U.S.P., 3 gouttes 3 fois par jour.

*(The Journal of the American Dental Association and The Dental Cosmos.)*

PEROXYDE D'HYDROGENE ET PERBORATE DE SOUDE,— par les docteurs S. C. Miner, Sidney Sorrin, William H. Greenhut, and Rudolph H. Pelzer, New York City.

Dans un article excessivement intéressant, les auteurs après des expériences concluantes nous mettent en garde contre l'abus grandissant de l'usage du peroxyde

d'hydrogène et du Perborate de soude. Nous vous conseillons, ami lecteur, de lire cet article en entier . . . . . peut-être vous empêchera-t-il de distribuer et de recommander à vos patients tous ces petits échantillons de poudre rose ou blanche que vous recevez chaque mois régulièrement.

*(The Journal of The American Dental Association and The Dental Cosmos, livraison de décembre 1938.)*

# A la Societe Dentaire de Saint-Hyacinthe

La Société Dentaire de Saint-Hyacinthe continue de plus belle ses activités professionnelles. Et c'est à l'honneur de tous les dentistes de la cité mascoutaine qu'on puisse dire que l'assiduité aux réunions est très remarquable.

La réunion de novembre 1938 a été marquée par une innovation: la présentation d'un travail par un membre de la Société. Le comité exécutif de la Société avait demandé à nos plus jeunes membres de se préparer à communiquer à leurs confrères leur thèse de doctorat. L'honneur d'être le premier à présenter sa thèse a échu au docteur Lucien Gaboury, '38. Le sujet: "Anatomie, pathologie et traitement de la pulpe", a suscité beaucoup d'intérêt parmi les membres présents. Il y eut ensuite discussion et l'étude de cette thèse fournit l'occasion de traiter de plusieurs sujets d'à côté ainsi qu'à des mises au point très intéressantes.

Au point de vue de réglementation, il fut pratiquement décidé à cette séance que tous les dentistes locaux s'engageraient à supprimer toutes les annonces, même celles permises par la loi dentaire.

A cause de circonstances incontrôlables, il n'y eut pas de réunion de la Société Dentaire, au mois de décembre.

La réunion du mois de janvier 1939 a eu lieu le 11, à l'endroit habituel, au Club Mascoutain. L'ordre du jour était chargé: motions, avis de motions, discussions. Le docteur Laurent Deslauriers, '33, a présenté aux membres de la Société son travail de doctorat, qui a pour titre: "L'hypersensibilité de la dentine". Le docteur Deslauriers a su capter l'attention de tous les membres présents. Il a été chaleureusement félicité.

La Société a aussi réglé plusieurs questions de régie interne, à ses deux dernières assemblées. La Société a maintenant son compte de banque en bonne et due forme. La loi de fermeture continue d'être en vigueur, trois soirs par semaine. Les annonces sont suspendues jusqu'à nouvel ordre.

A l'assemblée du 11 janvier, on a aussi commencé à parler de la participation de la Société au congrès de juin prochain.

La Société Dentaire de Saint-Hyacinthe a maintenant un Patron Honoraire dans la personne du docteur Albini Paquette, Secrétaire Provincial et Ministre de la Santé.

La Société Dentaire de Saint-Hyacinthe invite toutes les autres Sociétés Dentaires, ainsi que les membres de ces Sociétés, à correspondre avec elle, sur tout sujet susceptible d'aider à l'avancement de la profssion dentaire.

Parmi les autres initiatives de la Société Dentaire de Saint-Hyacinthe, signalons; la boîte aux questions, la "black-list", le travail en vue d'une coopération plus étroite entre médecins et dentistes, à l'hôpital et dans la pratique privée, un programme de propagande en faveur de l'hygiène dentaire.

Il est assez délicat de décerner des louanges à un membre en particulier, car on voit rarement, dans aucune autre association, autant de collaboration, d'enthousiasme et d'énergie qu'il y en a à la Société Dentaire de Saint-Hyacinthe, chez chacun des membres. La Société de Saint-Hyacinthe est née viable et elle vivra.

Y. L.

## *Le Congrès*

Le V congrès des dentistes de langue française de l'Amérique du Nord aura lieu les 8, 9 et 10 juin 1939.

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## *Le Bal de L'Association des Dentistes de L'Amérique du Nord*

Cet événement social attendu avec tant d'impatience chaque année, a eu lieu samedi le 4 février, sous la présidence de notre distingué confrère le docteur E. Vinet.

Ceux qui ont assisté à cette réunion n'ont pas eu à s'en repentir, car ils ont apporté un agréable souvenir de la belle camaraderie, la gaieté, dominées toute la soirée par une grande distinction.

On y comptait plus de 400 personnes et parmi les invités d'honneur on remarquait: l'Honorable Paul Sauvé, le docteur Philippe Hamel député de Québec, le docteur L. Duguay député du Lac St-Jean, le docteur Jean Grégoire Sous-Ministre de l'hygiène, le docteur J. Coupel échevin de Montréal, le docteur Groulx chef de l'hygiène de la Cité.

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## *Histoire sans paroles*

2ème scène

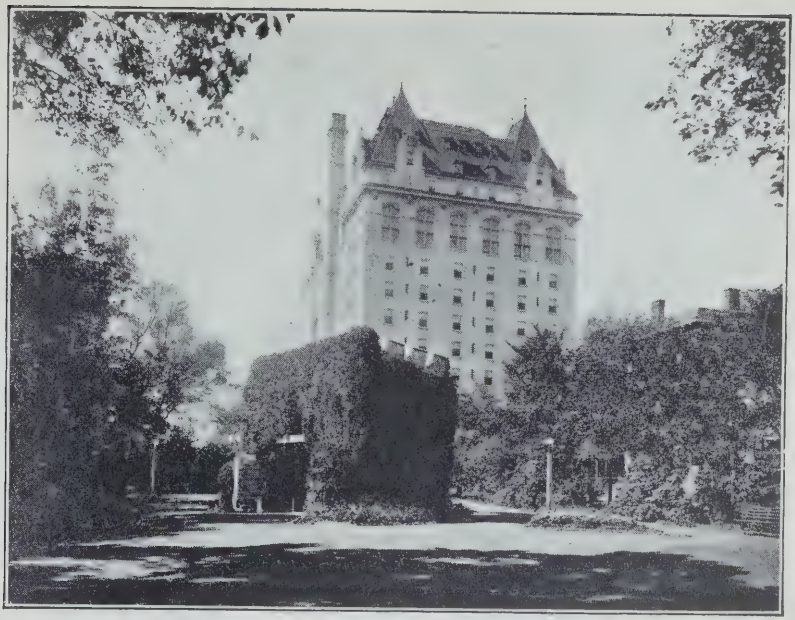

*Photo courtesy, Canadian National Railways, Hotel Department.*

FORT GARRY HOTEL, WINNIPEG, MANITOBA,

Headquarters of the Western Canada Dental Convention,

MAY 29, 30, 31.

**The program for this meeting will be found in the General News section of this issue of the Journal.**

# NOTHING TO DELIVER

FROM GREAT THOUGHTS (LONDON)

THERE is a story of a man who was asked to take a dainty to a friend in a distant city. Early in the journey the man was tempted to taste the dish, and afterwards he kept nibbling at it until he had no dainty to deliver.

The man who nibbled may be likened to the person who thinks that he has plenty of time in which to do something worthwhile with his life, but who keeps using the minutes and hours in doing trivial things. Finally he finds that he has nothing. All the treasure of time has been exhausted.

Of course it is impossible to put time in a bag and keep it, like a dainty in a sack. But we can use it for noble ends; we can make time count for something worth while. If we use up our moments and days foolishly, we have nothing to show when we reach the distant goal.

ARTHUR L. WALSH, D.D.S., F.A.C.D.
Montreal, Quebec

Acting Dean of the Faculty of Dentistry, of McGill University.

Consultant Dental Surgeon to the Montreal Children's Hospital.

Consultant and Hon. Treasurer to the Jules Richardson Memorial Hospital, Chateaugay, Quebec.

Member of the Medical Board of Montreal General Hospital, Western Hospital, Children's Memorial Hospital and McKay Institute.

Chairman of the Children's Dental Committee of the Junior Red Cross.

Member of the Board of Directors of the University Settlement.

Member of the Executive Committee of the American Association of Dental Schools.

Fellow of the American Academy of Dentists.

Fellow of the American College of Dentists.

The Journal
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# The Trend of Dental Education *

by ARTHUR L. WALSH, D.D.S., F.A.C.D., Montreal, Quebec
*Dean of the Faculty of Dentistry, McGill University.*

THE word 'trend' is defined as an inclination in a particular direction. In order to develop this futuristic phase of the educational aspect of the profession of which we are all justly proud, your essayist invites you to turn your thoughts back to the past, after which we might take an inventory of the present undergraduate training. We should then be in a condition, mentally, to visualize the objective or the goal toward which we are directing our course.

The dental educator is responsible for the training of a certain percentage of the youth or early manhood of our country. Dental education in the make up of its curriculum and subject material has changed in the last twenty years, and justly so, in keeping with the progress which science has made. We might be classified according to Ralph Waldo Emerson as follows,—"What is man born for but to be a reformer,—a remaker of what man has made, a restorer of truth, and good, imitating that great Nature which embosoms us all, and which sleeps no moment on an old past, but every hour repairs himself, yielding us every hour a new day and with every pulsation a new life." I sincerely hope that we are all reformers and that we will continue to be such until our profession has discovered the aetiology of that white man's plague, the ravages of tooth decay, and a preventive measure for the same.

To those who are engaged in any manner, whatsoever, in educational work I urge you not to slacken your efforts, but to increase them. You are giving real service to your profession, to yourself, for it keeps you alert and studious and you are assisting in the building up of Canadian citizenship.

Traditionally the fundamental requirement in dental education was skilled craftsmanship. This phase of undergraduate training is still of primary importance, and I trust will continue to be such. I invite members to see technical work of 1st, 2nd and 3rd years. Due to the scientific discoveries of Louis Pasteur, Koch, Sir John Tomes, Hunter, Naysmith, Lister and G. V. Black—we have gained knowledge and respect for the tissue of our specialized field, the oral cavity. We are fully aware of the microscopic construction of the foundation or underlying structure upon which we are invited to exercise manual dexterity. Our attempt to restore carious teeth with artificial fillings must be mechanically perfect for the dentist operates in the most septic field in the human body. There are a greater variety of bacteria in

* Read before the Montreal Dental Club, November 7, 1938.

the oral cavity than elsewhere in the body. I wonder if we have forgotten our bacteriology when we neglect to dam off the field of operation.

Thanks to Dr. William T. G. Morton, a Boston dentist and other benefactors of mankind for their heroic achievements to free the world from pain, we are able to operate with a negligible amount of discomfort to those patients suffering from dental disturbances.

In 1911, Dr. William Hunter addressed the medical profession, emphasizing the focal infection theory and atttributing a large proportion of the primary foci to our specialized field, the oral cavity. This proved to be a great stimulus to dental education and encouraged a remarkable advancement in the absolute necessity of co-operation between the physician and the dentist. Extremists and radicalists immediately began to use this theory of focal infection for a great many systemic disorders, the aetiology of which could not be determined, much to the discomfort and permanent disability of human adults. Thanks to that inbred sense of justice and honour on the part of the physician, a more conservative view is being taken.

We are all, no doubt, acquainted with the work done and the resultant findings in the field of metabolism, or diet and nutrition, to: (a) Dental caries. (b) Periodontal tissue atrophy or absorption, by Dr. Percy Howe; blood calcium deficiency,—Harvard University on Vitamin C & D.

We follow with interest the work of Dean Bunting of University of Michigan in the relationship between bacteria, principally the bacillus acidophilus and tooth decay.

One could not help but be impressed with the scientific and health exhibit at the American Dental Association in the large auditorium at St. Louis, held recently. There were exhibits by eight states, 16 dental schools, 40 individuals, and 50 organizations, all interested in health problems in general, and oral health in particular.

Allow me to quote from the address of Dr. C. Willard Camalier of Washington, President of the A.D.A. "As both doctors and dentists have learned more about the close relation between good teeth and good health, the gap between the two professions has narrowed." He said, "The modern dentist has a large amount of medical knowledge and this trend probably will be increasingly noticeable in the future." To-day dentists and medical men will realize the human body must be considered as a whole."

I have tried to point out directly through the media of the foregoing remarks the necessity for a broadening of the dental undergraduate course to include, not only training in craftsmanship, but increased instruction in the biological sciences and medicine in order that they might:

(a) Have sufficient scientific background to read and understand the work of the research man in this all important field.

(b) To make observations in practice and answer intelligently the questions of their patients and confrères in medicine.

At this point I will attempt to give you some idea of the course followed by a dental undergraduate of today in your Dental School at McGill University, which I presume is quite similar to other dental schools. At least two years of college work is required, and it will surprise you to know that over fifty percent have more, and many their bachelor degree.

In addition to the regular staff in anatomy and histology, a graduate in dentistry was appointed, this year, to assist as a demonstrator in their respective laboratories. This will, we trust,

serve to inspire and encourage the student to feel that the biological sciences are essential to modern dental practice. A series of talks on Orientation in Dentistry is also given to further point out the importance of the above sciences: physiology, didactic and laboratory, is given in the first year. Dental anatomy, metallurgy and dental techniques form the balance of the first year time-table.

Bacteriology, biochemistry, pharmacology (with a graduate dentist assisting) and general pathology (the two former and the latter are taken with medicine) are the science courses of the second year, which with dental techniques in all subjects, technical composition, dental history and a library procedure course, form the balance of the second year.

In the third year the student is given a chair and equipment at the infirmary, and begins his undergraduate practice. In addition, 200 hours of lectures in eleven subjects must be taken as follows:

Oral Surgery and Anaesthesia
Orthodontia
Dental Therapeutics
Operative
Crown and Bridge
Oral Pathology
Prosthetics
Public Health
General Anaesthesia
Dental Radiology
Metabolism
Root Canal Therapy
Crown and Bridge technique

Courses in medicine and surgery are given by members of the Medical Faculty, including the Dean of Medicine, Professor and head of the department of Medicine, and head of the following departments, Metabolism, Pediatrics and Dermatology. The present system will clear up, no doubt, in the mind of Canadian dentists, as to whether or not medicine and dentistry are working along, hand-in-hand in the interest of national health.

You will see that the student is now coming in contact with medical teaching. The final year is largely a clinical year, but the following subjects must be completed; clinical dentistry, practical and didactic, lecture courses in periodontia with demonstrations at the clinic. At this point I would like to refer you to "A Course of Study in Dentistry" by a Survey Committee of the American Association of Dental Schools, as follows,—

"The objectives and practice of dentistry have passed through various stages, which in recent years resulted in an extensive service and large responsibilities. The evolution has been characterized as follows,—at the beginning of dentistry, chiefly a means for the retention of loose teeth and for the artificial restoration of lost teeth, was practised to disguise disfigurement or disability. In its evolution, dental defects have been repaired and lost teeth replaced with increasing regard for the aesthetic and functional aspects of dental reconstructions. Many centuries passed before correction of irregularities in the position of teeth, and until means of limiting the extension of decay for the conservation of defective teeth, became common objectives in dental practice. Even the health service continued to be a subordinate purpose and was achieved negatively in the main, by extraction of diseased teeth. In recent decades there have been notable advances in the technical repair, remedial treatment, and artificial replacement of defective teeth. There has also been marked development of means for the preservation of dental function and of methods for the elimination of dental infection; and oral hygiene, as a prerequisite to the control or prevention of dental disorders, has received increasing attention."

Dentistry has now taken its proper place as a member of the health profes-

sions. Many laymen are apparently much concerned about the health aspects of dental service. They think that instruction regarding the effect of diseased teeth and gums on general health, participation in community health education and instruction regarding the effect of general health on conditions of the teeth are services which dentists should render.

To do this the dentist must know, for example, the application of the principles of biochemistry to body sustenance, the microscopic picture of those oral pathological lesions, the visualization of the large variety of bacteria found in the mouth and the conditions of susceptability on the part of the host.

I think that the trend of dental education will continue along health lines, at the same time seeing to it that our graduates possess that degree of efficiency in operative and technical skill so necessary to ultimate tooth function and in the prevention of localized trauma and irritation. Preventive dentistry is appreciated to an increasing degree by the public. Health is not merely the state in which the individual is free from disease, but, also the state in which he is free from the handicap of lowered vitality or impaired efficiency due to slight systemic disorders. The important role of the teeth and the mouth in the health of the individual places on dentistry a large responsibility for prevention. Any progress of prevention in dentistry should give much attention to dental service for children, for not only is their immediate health involved, but their development, as those who, in a comparatively short time, will guide the destiny of this human race. Dental disorders in children can be responsible for retardation in their mental, and a disturbance in their character development. Dentistry, I am pleased to say, is fully aware that adequate oral health service during early childhood may be expected to answer in the largest measure, enduring health, thereafter. Societies for the promotion of dentistry for children are active and dental schools with few exceptions are accepting their pedagogic responsibilities with increased fervour. Dental education, however, is not confined to the dental school. Private practice offers a real opportunity to the dentist for the education of the public, a large percentage of which are most receptive and anxious for information in oral health instruction of persons in groups, educating the public through organized meetings, which are always on the lookout for speakers with a message. If the members of our profession, in Quebec, are doing this, then why have we only one practising dentist for every 3,500 people? Either we are not educating the Quebec public in the importance of oral health, or they in turn lack the intelligence necessary to appreciate the same. Are we leaving too much to the radio advertizer? May I pass on to you the following recommendations from "A Course of Study in Dentistry"—"Items on which the public should receive instruction include the causes of dental diseases; the effect of diseased teeth and gums on general health, the effects of general health on the teeth, the relation between diet and teeth, the selection and use of the tooth brush, dentifrices and mouth washes; and above all the need for systemic and sufficient dental care, including periodic examinations and oral prophylaxis. Since pregnancy frequently leads to the establishment of dental disease in the expectant mother, she should be provided with adequate information regarding dental care during that period."

The matter of diet during pregnancy is one that concerns the dentist and the physician, conjointly, and utmost cooperation is very essential.

We have discussed dental education

in relation to the under-graduate, the private patient in the dental office, and the public through the media of organized meetings, and in closing let us consider possibly the most difficult of all, and that is our relation to government,—municipal, provincial and federal. There is *one* good point about democratic government and that is, the public can have what it wants provided it is sufficiently united in its requests. I am convinced that the health of the citizens of Canada in its special relationship to the oral or mouth cavity is of national importance and up to the present time has been given little serious consideration in the development of a national health program. You may call it socialized dentistry, if you wish. Preventive medicine and preventive dentistry should be nationally supported. The City of Montreal has not increased its public health budget. It is trying to educate or develop mentally and intellectually its children, over 80% of whom have dental or mouth disorders. In the case of a large proportion of those children the parents simply cannot afford to pay for dental service. The dental committee of the Junior Red Cross, of which I happen to be Chairman, is doing its utmost with the means available. Ten school clinics are being conducted and two more are urgently needed. To equip the latter, however, would cost a minimum of $400. each. Mrs. Shaw of the Junior Red Cross would welcome any contribution toward this cause.

Let me ask this question. Who is going to give to school children dental service, in those cases where parents cannot pay or where they can afford to pay an almost negligible fee? It is the responsibility of the municipality, supported by the provincial and federal governments in a national health program, including preventive medicine and dentistry. This is sure to come, just as certain as increased governmental revenue through income, sales taxes, etc, are to stay. This whole plan is in keeping with the development mentally, physically and morally of humanity in general, and Canadian citizens in particular. If, and, when, it does come, where does our profession stand in relation to its preparedness to render that service? We would need in this province 1000 more dentists, and at the rate we are graduating them at present it would take at least 30 years. This same problem is causing some anxiety to the dental profession in the United States. You are, no doubt, aware that a certain group, almost negligible in number, has suggested that in order to be prepared for socialized dental service there should be a division within our profession into a stomatological part and a technological part. The latter would be given a short course and would confine its service chiefly to extra oral prosthesis. I sincerely hope that such a splitting of our profession will not occur. Dentistry should remain a united and independent division of health service and be effective in promoting public welfare. This whole question should be studied by a representative committee from the Canadian Dental Association and the Canadian Association of Dental Faculties. Socio-economic planning for the wider distribution of oral health service to the people is a local as well as a national problem, and when given consideration should be guided by principles which will protect the present high standards of dentistry.

In conclusion, the trend of dental education might be summarized as follows: To aim at training students in order that they may be competent in the maintenance of oral health and the treatment of oral disease, disorders, and deficiencies with understanding and appreciation of the relationships between oral and systemic conditions in health and

disease; co-operate effectively with persons engaged in allied fields of service; have interest in, and desire for, continuing professional study after graduation; practise dentistry with due regard for its social, economic, and ethical relationships; and co-operate effectively in community life; to enlist the interest and co-operation of the parents by giving them up-to-date scientific information relative to preventive dentistry with special emphasis on children; to encourage the growing interest in the economic and social problems of health and to make oral health service available to all.

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# Dental Service for School Children

by EDMUND T. GUEST, L.D.S., D.D.S., Toronto, Ontario
*(Chairman of the Public Dental Health Committee of the Ontario Dental Association.)*

IT APPEARS that from 50% to 75% of our population cannot provide adequate dental treatment for their children. Necessary treatment must be provided at public expense or in some other way.

Dentists know that dental treatment, provided regularly, as a preventive service is not expensive. It is neglect that is expensive. It is much easier, and much less expensive to maintain a mouth in good condition, than it is to repair and restore it after considerable damage has been caused by neglect. This is particularly true of children.

Any effort to provide dental treatment for children should be planned with those fundamental truths in mind. True, present damage must be corrected. Aching and infected teeth must be treated or removed. Decayed teeth must be restored, but this is not enough. Developmental defects must be corrected; cleanliness must be established in the mouth, either by prophylactic treatment by the dentist or by proper brushing by the child (usually both), and the child must be instructed and encouraged to carry out proper personal mouth hygiene.

Very often dental clinics for children are established because somebody has become deeply impressed with the need of immediate relief. Great enthusiasm is manifested, and much good work is accomplished. But then, the enterprise is allowed to lapse, and the children soon get into trouble all over again. Dentists, in advising and assisting in the establishment of community dental services, should emphasize and urge a plan that provides for regular maintenance rather than spasmodic repair.

For our public patients as well as for our private patients, dentistry should be presented as an essential part of the business of living, and not as a visitation of bad luck or a wrecking crew to help us after we are in trouble.

## Aim of Service

The aim of the service should be early detection and adequate correction of defects, so as to prevent serious trouble, and to maintain the mouth in a healthy condition at all times, rather than the immediate, and perhaps temporary relief of extreme conditions.

In the past, in communities without school dental clinics, or other public services, local dentists have attempted to serve gratuitously those unable to pay. But in recent years there has been such an increase in the numbers of those who are "dentally indigent" that the burden has become greater than the profession

can bear. Futhermore, as the number of people in any community who cannot pay dentists for treatment *increases* the number who do pay *decreases,* reducing the financial capacity of the dentist to provide for the others.

Properly, service for the dentally indigent should be paid for by public funds. This has been accepted by governments all over the world. In Ontario successive provincial governments have recognized it by passing legislation authorizing public dental services, and by appropriating money for their support.

In Ontario, the government feels that the responsibility of sponsoring and operating these services should be on the municipality. But recognizing that where the need is greatest, the capacity of the local taxpayer is greatly impaired, the present provincial government has provided a sum of money, from which grants are made toward the cost of equipping and operating school dental services. This financial assistance only applies to newly established services, not to those that have been operating previous to 1938.

### How to Provide Service

The best way to provide dental services for children is through the schools. It should form part of the school health service. While local philanthropic bodies or service clubs, may, and often do assist in the cost, it is not desirable that the work should be carried on as a charity, perhaps supervised by local social service organizations.

Dental services should be responsible to the local board of health or the local school board. Government grants are not available unless this is so.

*A complete survey, that is, examination of the teeth of all children should form the foundation of school dental service.* The examination should be made by a dentist, rather than by the school nurse, or the teacher, (although examination by nurse or teacher will reveal gross conditions, and is better than nothing.)

An examination of *all* the children, made in the school-room, is better than a *voluntary* examination of those who present themselves at a dentist's office.

### Ontario Plan

In many Ontario communities this examination is being made by the local dentists, gratuitously, as part of their contribution to community welfare. Such an examination forms an important part of the Mouth Health Campaign being carried on by the Canadian Dental Hygiene Council. Examination forms may be secured gratis from the Department of Dental Services, Queen's Park, Toronto.

The results of the survey should be tabulated to show the total number of children examined, total number of children with defective teeth, total number of defects, number of cases of oral sepsis, (that is, extreme conditions, broken down teeth, abscessed teeth, etc., affecting general health.) Percentage of children with defects and average number of defects per child, can then be worked out.

Those able to do so, are urged to go to the family dentist and have defects corrected.

### Those Unable to Afford Service

The problem now arises, what to do for those unable to afford the expense of private treatment. As stated above, this should be done at public expense, through a school dental service.

In the larger places, a clinic may be opened in one or more of the schools. It is neither necessary nor desirable to equip dental clinics in every school. A clinic in a centrally located school will serve a number of other surrounding schools. Sometimes it is advantageous

to use a portable equipment that can be carried from school to school.

### Compensation and Arrangements

As a rule, results are much better if a definite arrangement is made for the compensation of the dentist. Beyond a certain point, voluntary service results in a lack of continuity, a lack of responsibility and lowered efficiency. There should be definite responsibility. The school dentist should be responsible to the Medical Officer of Health or directly to the Board of Health or the School Board. Where more than one dentist is employed, one should be designated the senior, or chief dental officer, or director. The others should be responsible to him and he to the M.O.H. or Board as above.

In smaller communities it may not be necessary to purchase equipment and set up a clinic in the school. The treatment may be given in the office of the local dentist, under what has been called "the contract plan." By this arrangement, the dentist places at the disposal of the local board, the facilities of his office for certain designated days or half-days, as may be needed.

The children are sent to the office, and during the designated periods the dentist devotes all his time to working for school children. He is paid by the local Board, a flat rate, which covers his services, facilities to the office, and all materials used. For example, two half-days a week, say Tuesday and Friday mornings may be arranged. On these particular mornings the dentist takes no private patients. He is a public employee. The school nurse, if there is one, or the principal of the school, if there is no nurse, makes appointments for the right number of children to be sent to the dentist's office.

Appointments for each child should be sufficiently long to permit the completion of as much work as possible at the visit. Each child's treatment should be completed in as few visits as possible.

But it must be remembered that the child's endurance will not permit too long sittings. Usually it is found that about six children in a morning (9.00 to 12.00) is best.

It is not desirable that all children should arrive at 9.00 A.M. They should be sent over at intervals, so as to eliminate excessive loss of time from school, and excessive waiting at the office, but there should be sufficient overlapping so as to prevent any loss of time by the dentist. It is better that the children be kept waiting than the dentist should be left without a patient.

The per diem payment of this service will vary according to local conditions, and will depend on individual overhead costs and the amount of compensation for the dentist's personal service. Most dentists now use a system of record-keeping that tells them the number of chair-side hours possible in a given period (month or year) and the expenses of practice for that period. Thus, he can know the overhead cost of his practice for a half-day, or any other given period. If he adds to this the amount required for personal remuneration, the amount to be paid for school service is found. While conditions and costs vary to some extent it has been found that eight dollars per half-day is, on the average, a fair and reasonable payment. This plan has been found to work with great success in many smaller centres. It eliminates the expense of equipping and operating a clinic. It makes unnecessary the setting up of a scale of fees, as has been done in some places where the work has been done in private offices. Scales of fees are apt to be misunderstood and wrongly applied, and may cause considerable embarrassment.

The successful operation of the contract plan requires honesty, co-operation

and efficiency. Endless complications and failure will result, if the dentist tries to sandwich in his private patients, occasionally, or leaves the school children to attend to other duties, in the laboratory, or the telephone, in his living apartment or otherwise.

The plan offers a satisfactory and workable arrangement of providing dental treatment for children, at public expense, at a cost that is low to the community, and yet pays the dentist for his materials, and to some extent for his time. It works well in the hands of people who want it to work.

Should it not be possible to arrange school service under a local public authority, there is no objection to having a service club, or other local philanthropic body provide the money. Local public sponsorship is extremely desirable, because it not only makes for continuity, responsibility, and efficiency, but also, makes possible sharing in the grants from the provincial government for the purpose.

Regulations for School Dental Services and concerning grants may be secured from the Department of Health, Queen's Park, Toronto.

Further advice and assistance regarding these services, and other forms of dental treatment for indigents may be secured from Dr. F. A. Kohli, Dental Division, Queen's Park, Toronto.

The Public Dental Health Committee of the Ontario Dental Association is able and anxious to advise and assist in the working out of individual local problems.

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## *Conventions*

Seventy-first Annual Meeting of the Dental Society of the State of New York, Hotel Pennsylvania, New York City, May 9-12, 1939.

Western Canada Dental Society, Winnipeg, May 29-31, 1939.

Seventy-second Annual Convention of the Ontario Dental Association, Royal York Hotel, Toronto, Ontario, June 5-7, 1939.

Dentists from the United States and from parts of Canada outside of Ontario will be welcomed.

Fifth Convention of the French Speaking Dentists of North America, Mount Royal Hotel, Montreal, June 8-10, 1939.

Annual Meeting of the New Brunswick Dental Society, Moncton, probably in July.

Twenty-sixth Annual Meeting of the American Academy of Periodontology, Hotel Wisconsin, Milwaukee, Wisconsin, July 13-15.

American Dental Association, Milwaukee, Wisconsin, July 17-21, 1939.

Fifteenth Annual Session of the American Dental Assistants Association, Astor Hotel, Milwaukee, Wisconsin, July 17-21, 1939.

Lucile S. Hodge, Gen. Sec., 401 Medical Arts Building, Knoxville, Tennessee.

American Dental Society of Europe, Lausanne, Switzerland, August 5-9, 1939.

K. C. Campbell, Secretary, 88 Portland Place, London W.1., England.

Australian Dental Congress, Melbourne, August 21-26, 1939.

Fifteenth Annual Fall Clinic of the Montreal Dental Club, Mount Royal Hotel, Montreal, September 27-29, 1939.

Chairman, Publicity Committee, Frank A. Edward, Medical Arts Building, Montreal, Quebec.

# *The Present Status of Public Dental Health Services in Canada* *

by EDMUND A. GRANT, D.D.S., Toronto, Canada
*Director of Dental Services, Department of Public Health*

THE story of dental health services in Canada is a fairly new one, as its beginnings go back only twenty-five or thirty years. It is a story that must be told in sections, just as the country is divided into nine sections or provinces, because the British North America Act of 1867, which united Upper and Lower Canada, the Maritimes, and the Great Western Territories into one Dominion, definitely provided that each province should have jurisdiction within its own borders over public health and education.

Canada with its 3,684,723 square miles is a large country, slightly larger than the United States, but it is only sparsely settled, as can be seen when we contrast the 10½ million population of Canada, with the 125 million in the U.S.A.

There is a department of health in the Dominion or Federal Government, and also a department of health in each of the nine provinces. The Federal department does not exercise any control or supervision over the provincial departments, and so each adapts its methods to its own requirements and needs. The work of the Federal department is mainly concerned with supervision and medical care of immigrants and sailors, administration of various food and drug acts, care of invalided veterans and provision of pensions. The carrying of health education to the public is left to voluntary bodies which are supported partly by government grants and partly by private philanthropy. The general health field is fairly well covered by such bodies as the Health League of Canada, the Tuberculosis Association, the Child Welfare Council, the Canadian Mental Hygiene Council, The Canadian Red Cross, etc. About twelve years ago the Canadian Dental Hygiene Council was formed as a voluntary lay body in the dental health field. Its aims and objects are—

1. The promotion and maintenance of a higher standard of public health by preventing the prevalence of dental disease by such means as the following.—

2. To undertake such measures as may be necessary, to prevent, reduce, or assist in the control of dental disease, thus establishing a higher standard of public health.

3. To carry on by means of lectures, demonstrations, exhibits, bulletins, the press and all other proper channels, a public educational campaign concerning the teeth and their care, oral hygiene and the relation between dental disease and systemic disorders.

4. To further the organization of public dental clinics, particularly in schools, hospitals and outlying districts where regular dental service is not available to the public.

5. To enlist the co-operation of the general public, and thus increase interest in the improvement of mouth conditions.

6. To urge upon provincial govern-

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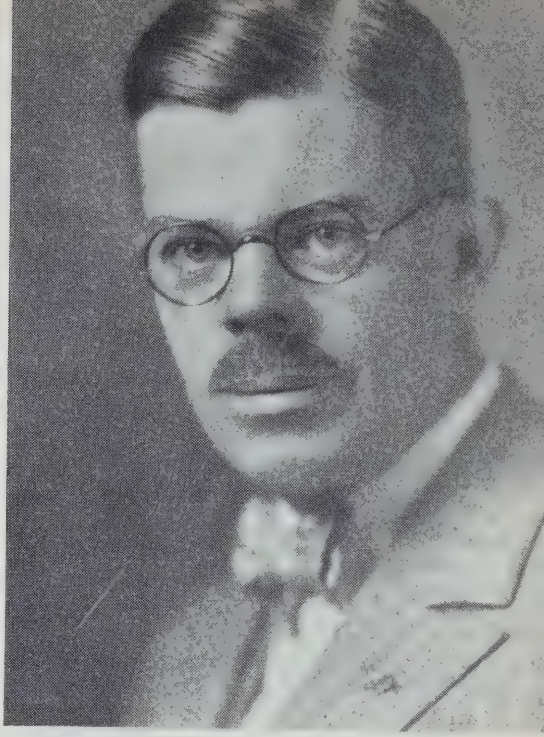


EDMUND A. GRANT

ments the necessity of establishing in connection with their departments of health, a division of dental services which will carry out the above objects.

The Executive of this Council is composed of prominent laymen and representative dentists and it derives its financial support from various yearly grants from the Dominion Government and other bodies. The largest grant is received from most of the insurance companies of Canada, through their joint organization, the Canadian Life Insurance Officers Association. The insurance companies believe that it is good business to promote dental health and have several times expressed the opinion that they receive better dividends per dollar from this work, than from any other contribution they make.

Starting in a small way, twelve years ago, with a dental health campaign intensively carried out in one province, the work has been tremendously expanded under the active leadership of the Field Secretary, Dr. Harry S. Thomson, up to the present time, when every province in Canada has been covered and followed up each year with continuing programs, so that there is today in each province, an active Central Committee co-operating with the Council, with the provincial departments of health and education and with the dental profession, keeping up a continuous campaign of dental health education, seeing that school children receive free dental examinations, that travelling dental clinics are carried to sparsely settled outlying districts. The provincial governments have been stimulated to increase their appropriations for this work from year to year. In 1937, with a budget of less than $10,000, the Canadian Dental Hygiene Council promoted an expenditure by governments and others, of $41,300, for public dental health services throughout Canada.

The last province to be covered by a dental health campaign, was Nova Scotia. This was in 1937-1938—and a brief review of that effort will serve to illustrate the plan usually carried out and the results achieved.

An intensive four month campaign was carried on, embracing twenty-two cities and towns. The Department of Education instructed all supervisors, inspectors, principals and teachers to lend every assistance. The Department of Health notified every medical officer of health, and physician on its staff to give their whole-hearted co-operation

while the campaign was under way in their district. The Department of Health also provided and distributed 40,000 copies of our mouth health literature. The supervisor of public health nurses and her staff throughout the province, gave valuable organization assistance. The dental profession served along with laymen on the Central and District Committees, and each dentist gave at least two days' time to make free examinations of children's mouths. In this way, 23,000 children were examined, charts made out in duplicate, one copy going to the home, and one filed with the school nurse. Women's organizations and service clubs gave valuable assistance and many addresses on dental health were given to large numbers of adults as well as 35,000 children. Through this intensive effort, the attention of the people was focused on dental health and a consciousness aroused for better mouth conditions. The dental profession established closer and more cordial co-operation with health workers and school authorities which will undoubtedly give them a broader outlook and stimulate them to greater lengths in prevention of dental disease. A tangible result is that in four towns, arrangements are being made to provide dental treatment for needy children. In three of these towns, the financial responsibility was undertaken by men's service clubs.

This short outline has only sketchily described the aggressive dental health propaganda that is being carried on continuously throughout Canada.

With regard to school dental services, these are generally considered the responsibility of the local community, although in some provinces the government may give grants in aid and usually provides some sort of travelling clinic service for outlying districts. The writer is indebted to Dr. Harry S. Thomson, Field Secretary of the Canadian Dental Hygiene Council for the following review of what is being done in eight of the nine provinces. Dr. Thomson travels across Canada each year in his work of promoting dental health education and services, and thus knows whereof he speaks.

It is safe to say that in all cities in Canada of 10,000 and over, there are established dental clinics, financed by the municipality. In the smaller cities, part time service only is given from two to five half days a week. The dentist is employed on this time basis and is paid by the municipality.

In cities over 5,000 and smaller than 10,000, dental clinics have been established on a co-operative basis, in some instances, a small grant from a municipality being supplemented by voluntary grants from welfare organizations and service clubs. The men's service clubs throughout Canada have been very generous in providing funds for this work in towns and smaller cities. In many cases the clinics have been started by a group of local dentists giving gratuitous services, each man, maybe, giving a half day a month. The most of these small town clinics are established on a two-day-a-week time basis and in almost every case after the dentists have given their time gratis long enough to demonstrate the needs and advantages of a clinic, they withdraw this service and the municipality takes the responsibility of financing it. In the larger cities full and complete financial responsibility and administration are taken by the municipalities.

### Nova Scotia

In Nova Scotia, the provincial government took no responsibility for dental treatment or dental health educational work until this year—1938—when the Canadian Dental Hygiene Council conducted a public dental health campaign

throughout the province, financially assisted by the provincial government, through the department of health. Following this campaign the government has committed itself to finance a definite program of dental clinics in remote and sparsely settled areas where dental services are not available. This plan will go into effect just as soon as the Nova Scotia Dental Association submits to the government a concrete program. It is anticipated that this program will be effective during the coming autumn.

### Prince Edward Island

In Prince Edward Island, our smallest province, following a campaign on public dental health throughout the province, the government of Prince Edward Island has granted annually a sum of money sufficient to provide dental treatment for needy children of public school age. In the city of Charlottetown, a school dental clinic has been established on a co-operative basis, jointly by the Rotary Club, Kiwanis Club and Red Cross. The provincial government has promised to assist this group to provide this service if and when there is a deficit.

In the town of Summerside, 3,500 population, school dental clinics have been established under the joint auspices of service clubs and women's institutes, augmented by a definite grant of $300.00 per year from the provincial government.

The provincial government also fully finances dental clinics throughout rural districts of the province. Nineteen of these clinics have been carried on during the past year.

### New Brunswick

In the province of New Brunswick, the provincial government makes no financial grant to dental health, nor does it assist financially in any way in dental clinics throughout the province. In the city of Moncton, 25,000 inhabitants, the school dental clinic is financed jointly by the municipality and three men's service clubs. In this Moncton clinic, one Moncton dentist is employed five days a week. This time is entirely inadequate to take care of the needs of a city of this size.

In Saint John, N.B., (60,000), school dental clinics are financed and administered by the municipal department of health.

In Sackville, Woodstock and Fredericton, N.B., dental clinics on a part-time basis are financed by the men's service clubs and women's organizations.

### Quebec

In the province of Quebec, the provincial government makes no financial grant to provide dental treatment. In the city of Montreal, a city of 1,125,000 people, the importance of school dental clinics is woefully neglected. During recent years, through the city department of health, some successful attempts have been made to establish well organized dental clinics under municipal authority. At the present time only four dentists are employed in this work, two of them on a part-time basis. The greater proportion of their work is examination and emergency treatment. An organized endeavour is now being made to improve these conditions.

Dental clinics have been established in many of the suburban towns of Montreal, through the Protestant school boards. In Outremont and Westmount, dental clinics have been established under municipal auspices. During the past two years the Junior Red Cross has taken the responsibility of establishing dental clinics to the needy, poor children of school age. Six clinics of this kind are now in operation, financed by voluntary contributions from the public and welfare organiza-

tions, administered by a board of citizens, under the responsibility of the Junior Red Cross.

In many of the towns and cities throughout Quebec, dental clinics have been established in the hospitals, the local dentists giving their time gratis for this service. Many splendid examples of devotion to the ideals of public dental health by busy dentists may be found throughout the province of Quebec, men who devote one or two entire mornings a week to carry out these dental services in various hospitals.

During the past year the Quebec government has given consideration to a program of public dental health and dental clinics covering the entire province. This project is in the hands of a very energetic and capable committee of dentists.

The present plan is to form a joint lay and professional dental health organization throughout the province, enlisting the aid of philanthropists and welfare workers, to carry not only public dental health, but a system of modern organized dental clinics to all of the towns and cities wherever it is practicable.

The Government of Quebec has been approached and tentatively expressed its willingness to financially co-operate in this scheme, and the promoters of it are hopefully looking forward to an early consummation of their plans.

### Manitoba

The Manitoba Government gives financial aid each year to carry travelling dental clinics through the rural and sparsely settled districts of that province. This contribution from the Government is further augmented by a financial grant from the Canadian Dental Hygiene Council, also one from the Manitoba Dental Society. During this past year, 96 such clinics have been conducted in various parts of the province and in the vicinity of 5,000 children have received treatment, to whom dental services otherwise would not have been available.

In all of the cities in Manitoba and many of the larger towns, well organized dental clinics have been established with the municipality financing them in some of the smaller towns, service clubs assisting.

### Saskatchewan

In Saskatchewan the plan is similar to that outlined for the Province of Manitoba, except that in Saskatchewan the extent of the clinics is much greater. The provincial government makes a very generous financial grant to this work. The Canadian Dental Hygiene Council and the Saskatchewan Dental Association also make financial grants here. The ultimate objective in these travelling dental clinics through the western provinces is, after the need for these clinics and their value has been demonstrated, the district must take the financial responsibility for carrying them on, if they wish these clinics continued. Be it said to their credit, they are doing just this. Out of a total of some 200 clinics in the province of Saskatchewan, not more than 30 were entirely free. In this way we are teaching the people the importance of mouth health, and assisting them as well as teaching them to take care of the problem themselves.

### Alberta

In Alberta at the present time, the government is not making any grant to public dental health or clinics. This is mainly due to unsettled political conditions throughout this province. We have the promise that during the coming year some help will be forthcoming from the Government. There is not quite as great a need for this assistance in the Province of Alberta as in the other two prairie provinces—Saskatchewan and Manitoba.

### British Columbia

The Government has taken the full financial responsibility of carrying dental clinics to remote and sparsely settled districts of this province. Last year, through the Provincial Department of Health, the sum of $20,000.00 was set apart for this purpose. The dentists employed give their full time for one, two or three months at the season of the year best suited for a travelling clinic. They are paid a salary of $16.00 a day, a day of six hours, by the Provincial Government. Material and equipment, as well as transportation, are provided by the government. Maintenance and quarters, in many cases, are provided by the people of the district where the clinics are working.

Because of the very large area comprising Canada and its relatively small population, there are very many thinly populated districts, where there are not sufficient people to make it worth while for a dentist to locate there. It is to these people that the government is carrying the travelling dental clinics.

During recent years we have been endeavouring to change the travelling clinics into travelling children. In other words, we ask a district to provide transportation, automobiles etc., to carry the children from twenty to fifty miles to the nearest dentist. We find that the dentist can do better work in his own office. He makes a contact with the people that is lasting; that is, when in trouble, they know where to go and, from the dentist's standpoint it is more desirable, because if he does good work for the children of school age, the older members of the family, who could afford to pay, think of him for their own dental treatment when necessary.

Dr. Thomson, in the foregoing review has given a bird's eye view of dental health services in eight provinces, and now leaves to the writer the task of describing such services in his native province, Ontario.

Ontario—was one of the first provinces to be developed and settled, and therefore it is natural to expect that greater advances have been made in dental health. To recount these developments which started sixty years ago, would take too much space. Suffice it to say that after many years of voluntary work carried on by the Public Dental Health Committee of the Ontario Dental Association, a Division of Dental Services was created in the Department of Health in 1926, with a dentist as director. One of the chief activities of this Division is to provide dental care for the inmates of provincial mental hospitals and the reformatories. About twenty dentists are engaged in this work, of whom eight are full time appointments. As it is often necessary to provide the inmates with artificial dentures, a central laboratory has been established for construction of such cases.

During the depression years, when many people could not secure necessary treatment to relieve acute dental conditions because existing facilities were not equal to meet this extra demand, the government set up a scheme for emergent dental treatment of people on relief whereby they could secure from the Relief Officer a voucher to take to the dentist of their choice and thus have removed sore, aching or infected teeth, or have broken dentures repaired. The dentist would then be remunerated at a scale of fees for the services rendered. $5,000.00 a month was provided by the government to pay for this scheme which has worked very satisfactorily as far as it went. In some communities other services such as fillings and dentures were provided to supplement the scheme.

The Division of Dental Services has also provided a system of grants for the

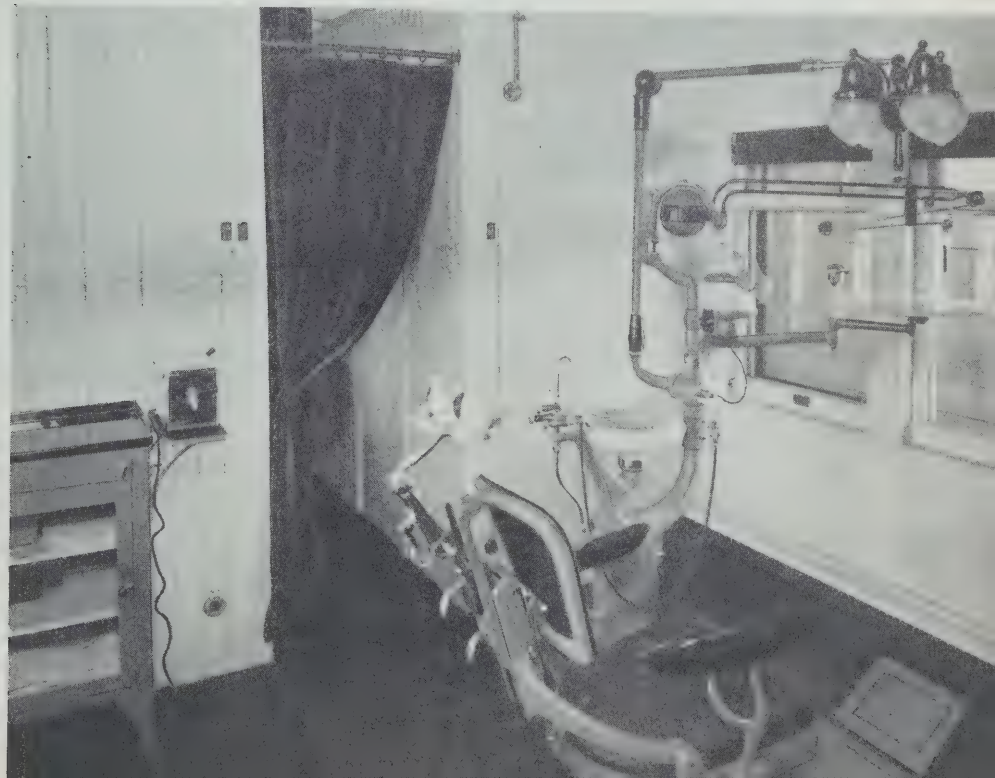
encouragement of local communities in establishing new or additional school dental services, under which they receive 20 to 30% of the yearly cost for a period up to five years. The government has provided $10,000.00 yearly for this purpose.

Perhaps the most interesting phase of the work of the Ontario Dental Division is the unique method it employs to carry dental service to children and even adults in the northerly, undeveloped part of the province. This is a travelling railway dental car, which has operated since 1931. Through the efforts of the Rosedale Chapter of the Imperial Order of the Daughters of the Empire, this car was made available. They remodelled and furnished an ordinary railway passenger coach which was generously given by the Canadian Pacific Railway Company. The car contains two dental surgeries, a dental laboratory, all electrically equipped, and living quarters for the dentist, wife and nurse. At one end is a full size furnace to supply heat and hot water for the rigorous winter, the kitchen has a full size range. It is really amazing how many conveniences have been included in the space of one railway coach without crowding. The Department of Health supplies a dentist and nurse and the Canadian Pacific Railway Company supply haulage, to move the car around and parking on siding at the various stopping places. As this car moves from one place to another across the northland bush and mining country, it performs a wonderful service in carrying dental treatment to children, settlers and Indians, who are many miles from a dentist, and could not otherwise secure relief and treatment.

As already stated, while the province makes grants to aid establishment of school dental services, the responsibility for them rests with the local municipality or community. The local Board or Department of Health is authorized by provincial statutes to carry on and direct

such services or may delegate this authority to local school boards.

Toronto, the capital of the province and one of the two largest cities in Canada has a Division of Dental Services, in its Department of Health, which was started in 1911, when a school dental officer was appointed. Toronto was the first city in the Western Hemisphere to make such an appointment. The service has grown until at the present time, the staff consists of a director, an orthodontist, and thirty-three school dental officers of whom eight are on full time duty and twenty-five on half time duty. There are thirty-two clinics in the schools, and a children's clinic is carried on in co-operation with the Dental College of the University of Toronto, for the training of students in children's dentistry. Also a preventive orthodontia clinic where early treatment is given to correct irregularities of the teeth in children under ten years of age. There are also clinics in several institutions such as the Hospital for Sick Children, the Preventorium, Forest Schools, Girls Refuge, etc. The service starts with the dental survey or mouth examination of all school children which is compulsory for all children in elementary schools. There are about 100,000 school children and about 85,000 are examined each year. Treatment is provided for those unable to pay for private treatment, but every effort is made to send children to the family dentist and to restrict free treatment to the needy. About 160,000 dental operations are performed and 40,000 children have dental treatment completed each year. The service also conducts a public clinic for indigent adults, in co-operation with the Toronto Academy of Dentistry, whose members give considerable voluntary service. This clinic undertakes a certain amount of operative treatment and provides 600 dentures a year. The total expenditure of this division of dental services for 1937, was $102,079.16.



The services carried on in some other cities and towns of the province may be briefly enumerated as follows:

HAMILTON:

Has a service under the Department of Health. There is a staff of ten part-time dentists and four full-time nurses, with thirty-three clinic hours per week. In addition, voluntary service is given by the director, and three lecturers. Service consists of yearly survey and lectures in all schools, treatment consisting of fillings, extractions, prophylaxis, space retainers, etc., is provided for those on relief or near relief. There are 33,053 children in public and separate schools and 12,468 received treatment from November 1, 1936, to October 31, 1937 . . . with 38,500 operations and 3,993 cases completed. The cost of the service was $18,493.00, in 1937. The service fairly well meets the need, but might be improved by intensified health education.

LONDON:

Has a service carried on by the School Board with eight clinics in the schools, six part-time dental officers serving ninety clinic hours per week. Conducts an annual examination of all public school children (9000), and also engages an additional dentist for three months to examine children in secondary schools (3800). Clinic service is provided for those who request treatment. No precautions are taken to limit it to those strictly indigent. About 7% of public school children are cared for, which is ample to meet the need.

Cost of service in public schools—$9,375.00. Cost of service in secondary schools—$400.00.

YORK TOWNSHIP:

Has a service carried on by the School Board with five clinics in the school. Six part-time dental officers serving seventy-five clinic hours per week. Service is to the public school children only, and consists of extractions, amalgam and plastic fillings and prophylaxis. There are 11,-300 children in schools of whom 6,000 received treatment and 3,500 were completed. No precautions taken to limit service to those strictly indigent.

Total operations in 1937—17,000. Cost of service—$7,000.00.

PETERBORO:

Has a service carried on by Board of Education, with one clinic carried on in six schools in rotation. One part-time dental officer serving fifteen hours per week. He examines all children once each year, and spends remainder of time giving treatment to those whose parents cannot provide it. There are 2,800 children in the schools, and precautions are taken to limit treatment. Requests for free treatment are checked by inspector, school nurse and attendance officer. In 1937, 2,800 children were examined, 368 received treatment — 764 fillings, 499 extractions. Cost of service —$1,825.00.

There is ample work for a full-time dentist: under present conditions much of the inspection work is wasted as the defect cards are ignored. There is little use instituting a follow-up campaign, as the dentist is already fully occupied.

In attempting to do justice to a big subject, this article has become much too long, (even though much has had to be left out). Many excellent services in other parts of the country have not been fully described, but it is hoped that at least enough has been told to demonstrate that the dental profession of Canada is fully conscious of, and is doing its best to meet the dental health needs of the people.

# *Leukoplakia* *

by GEORGE A. MORGAN, D.D.S., Toronto, Ontario

LEUKOPLAKIA is marked by the development upon the mucous membrane of the cheeks, the alveolar ridge, or the tongue, of thickened, white, epithelial patches.

This condition is commonly observed by dentists in the mouth, but it is all too frequently overlooked as of little consequence. It is seen frequently in men but only occasionally observed in women. It may vary in size from that of a small pin head to a grayish, white, superficial epithelial infiltration, covering the entire mucous membrane of the mouth. The lesion may be smooth and regular in outline or it may be raised and deeply fissured as is most commonly observed in the tongue. It may be associated with many other forms of oral ulcerations.

**Figure I.** *Illustrates leukoplakia of the cheek. This type of leukoplakia is that most commonly found by dentists and is generally situated in the region of the occlusal line which may lend support to the theory of irritation as an aetiological factor.*

## Aetiology

Since leukoplakia is most commonly observed in men past middle age who are habitual users of tobacco, smoking is believed to be a frequent aetiological factor. Syphilis, like tobacco, is thought to play an important role in the development of leukoplakia, but many cases have been observed where the patient had a continued negative Wasserman and was also a non-smoker.

**Figure II.** *Illustrates leukoplakia of the alveolar ridge.*

It is more likely that any type of continued chronic irritation may be the exciting cause. Cases have been reported

* Permission to publish all illustrations for this series has kindly been given by Dr. G. E. Richards, the Director of the Ontario Institute of Radiotheraphy, Toronto General Hospital.

**Figure III.** *Illustrates leukoplakia of the tongue.*

where various food allergies or chemical or bacterial irritants have been the sole cause of this condition. The chief offender along these lines appears to be the barbiturate group.

The association of malignancy with leukoplakia may be compared with any continued irritation of chronic inflamed epidermal tissue. Thickened leukoplakias and ulcerating lesions of the mouth that tend to persist and do not clear up within a month under the usual home remedies, should be considered potentially malignant.

Many areas of leukoplakia have been observed by the author, to break down, ulcerate and eventually become malignant. Although carcinoma may develop in areas of leukoplakia there are many patients with leukoplakia who never develop cancer. Patients, however, should

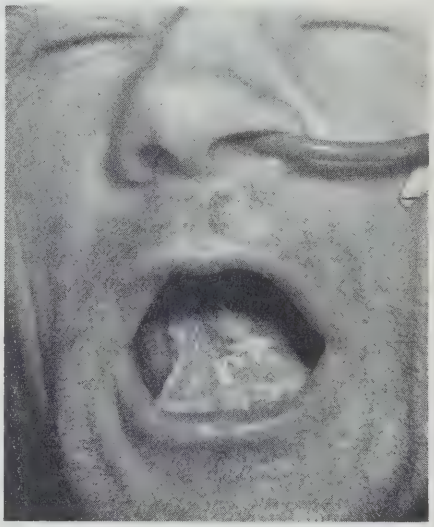


**Figure IV.** *Illustrates leukoplakia of the anterior portion of the mouth.*

be instructed regarding the importance of oral hygiene and the avoidance of all forms of irritation. It is suggested that when the ulcerated condition is observed by the dentist, the patient should be referred to competent medical services for diagnosis and treatment.

## *Help Wanted for Proposed Dental Health Week*

THE St. Hyacinthe Dental Society is laying plans for a Dental Health Week, to be held as soon as possible.

Having had very little experience in organizing such projects, the St. Hyacinthe Dental Society invites every reader of the Journal who might have advice, suggestions or propositions to offer to please write as soon as convenient.

The Society will be very grateful to anyone in the dental profession and dental trade, who will be willing to help in any way towards the success of the Dental Health Week.

Please address all communications to:
The Secretary,
St. Hyacinthe Dental Society,
84 Mondor Street,
St. Hyacinthe, Que., Canada.

# *Relief Dentistry in Saskatchewan*

by FRED B. COOPER, Moose Jaw, Saskatchewan.

FOR several years relief dentistry has been carried on in the Province of Saskatchewan, in one form or another, under the direction of the Department of Public Health of the Provincial Government.

The first dental clinic was held in 1928, for educational purposes, under the joint auspices of the Department of Public Health of Saskatchewan, the Canadian Dental Hygiene Council, and the College of Dental Surgeons of Saskatchewan. A dentist was sent to selected schools in the poorer areas of the province, and the work was done free of charge. During the course of this program about 1000 persons received treatment. The dentist selected received a salary for his work.

Between the years 1928 and 1933, no dental clinics of this nature were conducted. In 1933, due to repeated crop failures in the province and the great demand for dental services, the Canadian Dental Hygiene Council, in an effort to relieve this distress in the drouth areas, offered to contribute $250.00 toward relief dental services, provided that the College of Dental Surgeons of Saskatchewan and the Provincial Department of Public Health would each contribute a like amount. This they agreed to do, and the sum of $750.00 was made available for corrective dental work for school children whose parents were unable to finance the necessary treatment. The disbursement of the fund was handled by an Advisory Committee of four dentists together with the members of the Department of Public Health. A general plan of work, rate of payment and other details were arranged before the work began. By this means 917 children were treated at a cost of $750.00. This program, however, was considered of a temporary nature only, as it was expected that improved financial conditions the following year would permit the discontinuance of this type of work. No formal application for doing work was required and no written consent of the parents was asked. The school districts, in which the work was carried on, were not asked to contribute toward the cost of the work.

Between the years 1934 and 1937, a complete change in the dental picture in Saskatchewan took place. Continued crop failures left the farming communities in a helpless state financially, and the demand for dental services became greater each year. From the modest beginning of 917 school children treated in 1933 at a cost of $750.00, the figures mounted to 4810 children treated in 1937 at a cost of $5,995.00. The cost of this work was financed by means of donations from the Canadian Dental Hygiene Council, the College of Dental Surgeons of Saskatchewan, the Provincial Department of Public Health, and the School District in which the work was being conducted. During the four years mentioned, treatment was given to 10,977 children at a cost of $13,236.00. This remarkable feat of service was made possible by the co-operation of the staff of the Department of Public Health and the dentists themselves. The Department nurses organized the clinics, secured the necessary transportation and accommodation for the dentist, and assisted in the handling of the children while the clinics were in progress. In most cases the children had to be transported many miles by car or truck to a central clinic point, under the full responsibility of the School

Boards. Only school children between the ages of five and fifteen years were treated. Later, due to better organization of clinics by the Department, school districts were asked to sign formal applications for the holding of school clinics. Parents were required to sign consent forms before children were treated and the dentist located nearest the clinic school was asked to conduct the clinic. The parents or the School Boards were asked to contribute at the rate of fifty cents per child, but no child was refused treatment through inability to pay. The balance of cost was paid by the Department of Public Health from the fund for that purpose. The clinic dentist received $15.00 per day, plus $3.00 for materials, plus accommodation and transportation expenses, when necessary. Fifty-two dentists were engaged in school clinic work in Saskatchewan in 1937, and from 8 to 20 children were treated, per day, per dentist, while clinics were in progress. Every form of co-operation by the Department staff was given, and great praise must be given to Miss Ruby Simpson and Dr. R. O. Davison of the staff of the Department for their untiring efforts to increase each year the amount set aside for dental services by the Government of the Province.

Many dental clinics were also sponsored by the various women's organizations, often under the supervision of the Department of Public Health nurses; and many private clinics were conducted by the dentists themselves, in order to relieve as much distress as possible. Clinics of this nature will necessarily have to be carried on until financial conditions improve. Great hopes were held that the year 1938 would solve this problem, but owing to another partial crop failure, relief clinics will have to be continued for another year.

The Department of Public Health of the Saskatchewan Government, with the assistance of the organizations mentioned has been conducting school dental clinics for a number of years, as stated, and has provided supervision for the carrying on of other clinics, but has been hampered in its efforts through lack of sufficient funds. A very valuable contribution in time, materials and service, however, has been given by those engaged in this work, but it is felt that the results still leave much to be desired. During the years 1934 to 1937 inclusive, a total of 10,977 children from 596 schools were treated at a cost of $13,236.00, as previously indicated. This is slightly more than $1.00 per child, regardless of the amount of work done for each. From actual records, the dentist would have received considerably more had he done the same amount of work at his usual fees. At the same time, it must be admitted that many dentists welcomed the opportunity to work for a cash fee on a per diem basis, when cash patients were at a premium.

In doing work of this nature for small fees, are we not lowering our professional status? Why should not the dentist be paid his regular fee for this work as well as anyone else supplying relief necessities?

A tremendous amount of good has been accomplished by means of these clinics, although the fee received by the dentist has been small. Many persons believe, however, that he has been well paid for his clinic work, and so the sacrificial efforts of the dentist have not always been fully appreciated. It has been found that women's organizations conducting clinics desire to have the work of as many children as possible completed each day at a fixed rate. Proper dental attention cannot be given under such conditions of quantitative dentistry. Clinics held in places other than the dental office make it very difficult to give proper detailed attention to

the work being done, and it is not convenient for the dentist. In the hurry of clinic work, many children, who are having work done for the first time, may be permanently frightened regarding future dental work, instead of being encouraged.

In addition to the dental clinics in the schools, the Provincial Government and the urban centres of the Province, during recent years, have provided a considerable amount of dental service for adults and their families who are on relief.

The Government, after a survey each year of the drouth areas in the Province, makes provision for supplying necessities to the rural population requiring relief in those areas. These regulations continue until August 31, after which a new survey is made, and the regulations amended to meet the conditions as disclosed by the survey.

For the past year the Government recognized a "relief area" and a "marginal relief area." In the relief areas, where drouth was severe and relief extensive, the dentists who wished to accept it were paid a basic grant of $25.00 monthly, and allowed to earn up to $75.00 a month, working for rural relief recipients at 33 1/3% of the minimum fees as set by the Saskatchewan Dental Society. In the marginal relief areas the dentists were allowed the same basic grant and permitted to earn up to $50.00 a month, working for the same type of patients and at the same fees. These areas included some of the smaller cities. In the cities of Regina, Saskatoon and Moose Jaw, any dentist who wished could do dental work for rural relief recipients from the surrounding districts who applied for it and had a certificate from their Rural Municipality. The Government would pay 50% of the minimum fees, the dentist arranging with the patient to meet the balance. A maximum of $50.00 a month for each dentist working under this plan was allowed, when working on rural relief recipients only, as it did not apply to city relief patients.

Another group, covered by the Provincial regulations, included the transients and people living in the cities on 100% Government relief. In these cases 75% of the minimum fee was allowed, in view of the difficulty of collecting any part of the fee from these patients.

The Government also set aside a modest sum to provide dentures for those on relief in rural districts, and those on 100% Government relief, where a medical certificate indicated they were necessary for immediate health reasons. The Government provided 50% of the minimum fee for the one group and 75% for the other, and the patient was presumed to be responsible for the balance.

In the northern part of the province the Northern Settlers' Re-Establishment Branch authorized extractions for distress patients, when certified by their physician and the Relief Inspector for that district. The fee allowed was $1.00 per tooth for extractions, with a maximum of $15.00 for each patient, the recipient being expected to work for the amount expended on his behalf.

In the cities, the senior Governments take no responsibility for medical or dental care for those on city relief, so that the cities are compelled to bear 100% of the cost of such care, and it is kept to a minimum as a result. The conditions vary in each city, but most of them provide necessary extractions, allowing $1.00 for the first tooth and 50 cents for each additional tooth, with a maximum for each patient of from $5.00 to $7.50. In a few emergency cases a fee for x-ray and $5.00 for removal of impacted teeth is allowed. In some of the smaller cities, very little relief dentistry is provided, although the Red Cross provides some, while in one of them the dentist's business tax is rebated

in return for services to city relief patients.

In the Capital City $3000.00 is set aside, annually, for dental extractions for those on relief and $500 additional for repairing dentures, and the providing of new dentures, where the health of the individual urgently requires them. A committee of two dentists supervises the relief dentistry and authorizes it in each case. In the other cities, the Medical Health Officer, the Relief Medical Officer, or other physicians authorize the work, with or without a committee of dentists.

In the holding of Government-sponsored clinics and the providing of dental care for adults on relief, many people are relying more and more on Government assistance. The urgent need and increasing demand for dental work has caused public attention to be focussed with greater intensity than ever before on the dental profession. A large proportion of the dental practitioners in Saskatchewan have nobly carried on clinic and relief work, and have rendered valuable service at a low fee in the face of increased operating expenses. Many are engaged in relief work only because of the dire need of this type of work.

In normal times a certain percentage of our population receives only sporadic dental attention, due to crop failures, seasonal work, long distances from a dentist and weather conditions. For the people who, during the depression and drouth years have sacrificed much to remain off relief, dentistry and many other services are impossible, and this is the group that deserves our best thought and effort to meet its need.

These conditions should be remedied. Through the co-operation of each dental practitioner in the Province with the Department of Public Health, together with a standard of fees commensurate with the value of the work being done and the cost to the dentist, dental services could be carried on. The work could be arranged to be done in an orderly manner the year round instead of during the hurry and worry of busy and slack seasons as now prevail. Consequently, a larger number of persons would receive the necessary dental service than has been the case in the past.

With these facts in mind, two dominant questions stand side by side:

*Is the Clinic system here to stay?*

*Are we headed in the direction of State Dentistry in Saskatchewan?*

211 Hammond Building.

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*The literature of longevity is full of advice, recipes and precepts for the attainment of long life. Yet study of our collection of life records of nonagenarians and centenarians leads to the conclusion that these persons exhibited substantially the same range of variation relative to personal hygiene as is found amongst people in general. Some were light eaters, others on the gluttonous side; some used tobacco, others didn't; some had been in robust health all their lives; others had been ailing a great part of the time. In only one outstanding respect besides great longevity did the group markedly differ from the generality of mankind. That is the fact that a vast majority of these extremely long lived folk were of a placid temperament, not given to worry. They had taken life at an even, unhurried pace.*

*This confirms a generalization that has emerged from experimental studies on life duration. It is that the length of life is generally in inverse proportion to the rate of living. The more rapid the pace of living is, the shorter the time that life endures.—Professor Raymond Pearl in the "Scientific Monthly," per Medley.*

# Practice Management

The Journal Committee has found an increasing demand for a Section in the Journal on "Practice Management". You are invited to send your suggestions on office management and practice, or concise articles on some phase of this subject to the "Editorial Office," 314 Somerset Building, Winnipeg.

*This letter re Dr. Aitch which was received by the editors of Medical Economics and reprinted in the Journal of the C.D.A. by their kind permission, contains some food for thought for the practising dentist. How often do we allow ourselves to be enticed from the work at hand instead of giving our patient our undivided attention while he is in the chair? Furthermore, have we been short-sighted in planning our office so that patients seated in our reception room can hear what is being said in the operating room; or do we leave the door open between these two rooms with the same result? I am told that some dentists have a combined operating and reception room so that patients who are waiting can not only hear but see all that goes on at the chair. These things are unprofessional and should not be tolerated.*—EDITOR.

TO THE EDITORS: I am a layman. My doctor happened to show me a copy of MEDICAL ECONOMICS. I am writing to you to get something off my chest.

Dr. Aitch was highly recommended to me by a friend whose judgment I value. I was told that the doctor was a very busy man; so, when I had to sit in his waiting room for 45 minutes, despite an appointment, I did not feel hurt.

After Dr. Aitch admitted me, one hour and 47 minutes passed before I left his office. In that time the doctor was with me just 24 minutes. He kept darting back and forth between his office, another examining room, two telephones, his waiting room, and me. Once he attended me for six consecutive minutes.

I didn't want to go back, but one doesn't incur a charge for an initial examination and then quit. It isn't good business. I tried to be charitable, saying that perhaps I'd hit one of his busy days, so I went back five times. At each visit my first experience was more or less repeated.

I have no criticism of Dr. Aitch's professional ability. My complaint is that he is extremely impolite.

A patient in the reception room waits his turn; but anyone can get into the doctor's sanctum by telephone. What if a patient does lie ten minutes, naked and at an uncomfortable angle, on the examining table! What if he does get the jitters waiting for the doctor to write a prescription! The doctor isn't uncomfortable.

I would not object if the interrupting phone calls were for real emergencies. With Dr. Aitch it makes no difference if a call is from a patient who wants to know the result of a blood test or from his wife who wants to know what to say to the painter who botched the living-room job. (I listened to that for ten minutes one day.) Once I couldn't help overhearing a five-minute discussion as to who would make the cocktails for a dinner party if the doctor were late.

That sort of thing is plain ungentlemanly.

Another thing: I have my doubts as to the ethics of telephonic discussions of one patient's symptoms in the presence of another. Sometimes I was right in Dr. Aitch's office; sometimes I could

hear his voice through a closed door. I never called up after that.

Dr. Aitch has a competent nurse. Just as she tells a waiting patient that the doctor is busy, she could also assure a telephone caller that "The doctor will call you later."

I don't consider Dr. Aitch's bill unreasonable, but I intend to pay it just as he treated me; a little now; a little more when I feel like it. If a payment interferes with my wife's fur coat, or the theatre—Aitch can wait.

LOUIS CARNEY,
NEW YORK CITY.
*Medical Economics, Sept., 1938.*

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*It was found by Professor Copeland of the Harvard School of Business that in every purchase we make we use only fifteen per cent reason and eighty-five per cent emotion. So if you see those people coming in guided and predominated largely by their feelings and emotions, you have a better opportunity to understand some of their basic behaviour. When a person comes in and sits down in your reception room, he is immediately at the mercy of the environmental circumstances you have provided. Colour tones on the walls, floor covering, pictures, drapes, furnishings, furniture, illumination and surely ventilation all combine so that he feels pleasantly or unpleasantly motivated.*

*Dr. Edward Strong of the Stanford University Psychology Department says, "The total artistic or emotional effect of your office is inseparably associated with your service and you. It is a synthesis which cannot be broken down. People look over the general plan, you and your assistant, and they decide whether they like you and your assistant and whether they like you and your office or not."*—Louis Hill, D.D.S., Los Angeles, Cal., in N.Y. Journal of Dentistry.

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*The essentials of meeting and handling people in any office are to greet them as soon as possible, let them know they are welcome, seat them at ease, tell them about how long it will be before professional service is accorded, and do any simple thing which might minister to or increase the prospective patient's comfort. We all feel uncomfortable and uneasy when we go into a place and aren't recognized; our ego is crying out for attention; it seems that someone should recognize the importance of paying some attention to our arrival. After all, we should be very glad to see these people.*

*Human beings resent impersonality. We don't want to be treated as a stick of furniture. We all want to be recognized as individual persons. If an assistant on going out into the reception room when she had something else to do which required her attention, merely smiled cheerfully and said to the person, "I will be with you in a moment," I am sure everything would be helped.—Louis Hill, D.D.S., Los Angeles, Cal., in N. Y. Jour. of D.*

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*In everything worth having, even in every pleasure, there is a point of pain or tedium that must be survived, so that the pleasure may revive and endure. The joy of battle comes after the first fear of death; the glow of the sea-bather comes after the icy shock of the sea bath; and the success of the marriage comes after the failure of the honeymoon. All human vows, laws and contracts are so many ways of surviving with success this breaking point, this instant of potential surrender.*

*—G. K. Chesterton in "What's Wrong With the World."*

# The Forum

## • THE MEDICAL RACE

by ROBERT HUTCHISON, M.D., D.Sc., LL.D.

(*Excerpt from the Inaugural Address delivered at the Opening of the Session of the Westminster Hospital Medical School, London, on October* 3, 1938)

### The Causes and Meaning of Success

IF YOU ask me what makes for success in the race of practice I am afraid I cannot tell you. It is not knowledge or manners, for a doctor may achieve a large practice without either of these. The French have a saying that the three essentials are *un peu de savoir, beaucoup de savoir faire et assez de faire savoir,* which, being interpreted, means a little knowledge, much tact, and a fair amount of advertisement. This sounds cynical but certainly contains some truth. On the other hand, the power of inspiring confidence is possibly the one thing needful—but I really don't know. Everything depends, of course, upon what one means by success. Some estimate it in terms of money, some think of honours of one sort or another as the hall-mark, but these are little value unless bestowed by one's fellow competitors. Perhaps after all Dr. Johnson was right when he said that "happiness at home" is the ultimate object of all ambition, or, in the words of Burns, "to make a happy fireside clime for weans and wife." Let us at least agree that so far as practice is concerned that man has succeeded who has gained both the affection of his patients and the esteem of his colleagues, and let me point the moral by an example. I had some years ago a friend who had a large practice in one of the outer suburbs. He fell grievously ill, and complete quiet was necessary for him. As soon as this was known his patients organized amongst themselves a rota of traffic-controllers who, taking turns day and night, diverted all vehicles from the neighbourhood of his house for more than a week. He died before his time, but to have inspired such devotion was to have succeeded triumphantly.

When all is said and done, however, ours is a race in which there are many kinds of success and no one winner, and perhaps it is not so much where you come in as how you ran, that matters. You may have bad luck in spite of all your efforts, but remember:

They win who never near the goal,
They run who halt on maiméd feet;
Art has its martyrs like the soul—
Its victors in defeat.

And that is true of the art of medicine also.—*From the Lancet.*

## • ORTHODONTIA AND PREVENTIVE DENTISTRY

by DR. B. G. DEVRIES, Minneapolis, Minnesota

(*Summary of paper in North-West Dentistry, April,* 1938)

DENTAL service to his juvenile patients should, in my opinion, include the dentist's appraisal, to the best of his knowledge, of the entire dento-facial aspect of the child. His attitude requires no special orthodontic background or training. One does not need to be an orthodontist to know the principles underlying the development of the jaws and teeth; it is the basis of our entire dental education. Many of us have forgotten it as such, or have not applied our knowledge in our service to our juvenile patients. Neglect of some of the most common practices of dentistry, when applied to children, is responsible for many serious conditions:

If we are serious in our endeavour to prevent dental ills, as well as to repair them, if we are definitely enrolled in a program of "Dental Health for American Youth," we must begin at once to get our own personal houses in order and prepare ourselves to assume the responsibility and exercise the authority which is ours, of definitely ascertaining and correcting, insofar as possible, factors which are significant in the prevention of malocclusion. Upon investigation it will be found that many of these factors can be splendidly coped with if dentists individually will practise their profession in accordance with the sound principles of dentistry which already have been established, and which demand a high order of personal endeavour for their fulfilment.—*North-West Dentistry.*

## • ROLE OF GOVERNMENT IN MODERN LIFE

by DR. CLARENCE A. DYKSTRA, President of the University of Wisconsin

*(Excerpts from address given at the first General Session of the 75th Annual Midwinter Meeting of the Chicago Dental Society, February 13, 1939.)*

IF WE wish to maintain the democratic way of life and our own democratic institutions, our government must respond to what a democratic society believes is necessary for its own perpetuation. It has been the failure of democratic government to act that has produced the dictatorships of modern Europe. If we believe in the democratic way, we must face all the facts and try to work out a public policy which will provide individual opportunity and some degree of economic security. Social action must respond to social needs. If it does not, the result is anarchy and chaos until a strong man steps in and restores the balance. Meanwhile liberty and personal freedom may be thrown into the discard.

I have never been able to understand why insurance is a holy thing for some purposes and so unholy for others. We insure ourselves against death, against accident, burglary, hailstorms and earthquakes, but not against the most common things that can happen to anybody, namely, sudden illness, the need for operations, for hospital care and dental troubles of all sorts. I am of the opinion that the medical and dental professions ought to assume some leadership in aiding the public to find a way through the confusion that envelops the whole subject. Let us have light.

Fortunately we are learning more and more about our national health situation and the opportunities which our people have for treatment. Thus we have the facts to guide us if an intelligent approach and appraisal seem worth while to the medical and dental professions. We know that medical care costs the American people about three and a half billions a year, a little more than we spend for education. We are told that adequate medical care for all, after reducing present wastes and duplications would cost more—the experts tell us about $6 more per person. We now spend $30 per person. In other words *we could have adequate medical care for all in this country if we should spend efficiently about what we spent at the lowest point of the depression for candy, cosmetics, chewing gum and cigarettes.*

In suddenly forcing upon the country new and perhaps untried methods of providing medical care and paying the bills we might easily make mistakes, which if they have to be made at all, ought to be made more prudently on a small scale.

Do we need health insurance? The answer is yes if families are to budget certain amounts for medical care. For no one knows when he will meet heavy expenditures in this field any more than he knows when his house is going to burn down. Few could rebuild a burned home if there were no fire insurance.

These risks—fire and health call for the same prepayment of costs on an insurance basis or by some other form of collective financing of medical and hospital bills. Patients, as individuals, cannot solve this problem. Neither can doctors or dentists, as individuals.

There is some agreement on the plan of prepayment of hospital bills. Shall this be extended to the prepayment of doctors' bills on a group basis? If so shall this payment be on a voluntary or compulsory basis? Shall health insurance be voluntary and shall we have group practice through Consumer Co-operatives —the plan now in effect in the Ross-Loos Clinic in Los Angeles with its 60,000 subscribers? This clinic, you will recall, has been the object of acrimonious debate for some time—and not so long ago the target for local medical associations to shoot at. Apparently, however, it has been a very successful experiment. Such co-operating groups have sprung up in a number of places. It would seem that these should be the subject of careful study rather than points of attack. This surely would be the laboratory technique to which we all give lip service at any rate.

The Canadian Medical Association is now working out a plan for compulsory health insurance. Let us watch it and not condemn it before trial. The American Association for Social Security is backing such a legislative program in Congress and in a number of states. Such a program is in effect in Great Britain and 18,000,000 persons are insured and 16,000 physicians have elected to participate.

Our experience might be different under the British system. The best way to find out would be to have a laboratory experiment here and there with the profession in charge.

Let us not defy change; let us guide it and point out the way. Any other course may be disastrous for all.—*Bul. of Chi. D. Soc.*

## • CHILD HEALTH DAY

by SAMUEL D. HARRIS, D.D.S., Detroit, Mich.

IN YEARS to come when the history of this age is written by the impartial thinker, who at that distance of time may be able to gain a right perspective and may then be able to say which were the most striking features in our social development, it may well turn out that he will point to the birth of the interest in CHILD HEALTH as being among the events of first importance.

There is no asset that has greater value and broader potentialities than our children. Even though our nation is rich in various types of resources, none of them surpass in value or greatness the human resources hidden in boys and girls. No one can tell at any time just what a boy or a girl might be. In fact, no one can ever tell just what any particular boy or girl will ultimately mean to the community, state, yes, even the nation.

The world needs better men and women—good as those of the present generation may be. Let us begin with the young, the boys and girls, and keep them in health; they are to be the men and women of tomorrow.

Of all the values of Child Health Day, perhaps the greatest is the opportunity it presents to enlist the active interest of groups which might otherwise not give the subject of child health any particular thought, and to draw them into the general program. Each year new groups have realized that they had a contribution to make.

The American Dental Association whose president's slogan is "Dental Health for American Youth," is playing a most important part in those activities

which have had Child Health May Day as their inspiration.

The trend in dentistry, as in all health services, is distinctly toward prevention and is annually gaining momentum in this direction. Just as we have wisely applied the findings of our science in other fields, so we are practising preventive dentistry for the benefit of American youth. We will all agree that the health of our children is worth any price, and that in so far as the dental profession can do so, it should see to the health of all children.

The American Dental Association stands ready to co-operate with all other agencies and professions in presenting to the American public the true significance and importance of the ideals of Child Health Day to the present and future welfare of our nation.—*Committee on Co-operation of the Am. Assoc. of Dental Editors.*

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*Dr. Vernon Fisk, Chairman of our Journal Committee, has pointed out that the above cartoon exemplifies the spirit of co-operation which is sometimes lacking in our professional life.*—EDITOR.

*Editor*—M. H. GARVIN, Winnipeg

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*J. S. Bricker, Vancouver*

# *Introducing Our U.S.A. Correspondents*

Canada is populated chiefly by two great peoples, the English and the French. That we have learned to understand one another and live peaceably together is exemplified in the monument dedicated to Wolfe and Montcalm, in the City of Quebec, a monument erected to magnify these two races, equal in courage, equal in fame and equal in glory. Canadians have learned, also, to live in harmony with their brothers of the great United States of America and we are proud of the fact that on this great continent of North America a people have grown up who cannot be fooled all of the time, nor even some of the time. They are too intelligent, too level headed, too anxious to keep that liberty which has cost so much, to submit to any dictatorial sentiments of hatred, malice or envy. We welcome from every land men of honour and of worth. We do not welcome any who come to destroy, and to such our gates should be closed. Let us be quick to remember that "eternal vigilance is the price of liberty."

Because Canada and the United States think alike with regard to these great humanitarian ideals, because we cherish the same ideology of liberty and justice we have been drawn together, in recent times, even closer than ever before, due to the development in many other lands of systems and

JOHN E. GURLEY

practices which to us are abhorrent. Our flags are intertwined, and God grant that they may never be flaunted in defiance of one another.

The dental profession has its contribution to make in building up the great ideals for which we stand. In the past we have played our part well and we will continue to do so. Recently Dr. S. J. Bloomfield of Sherbrooke, Quebec, sent the writer a copy of the Montreal *Daily Star,* dated March 26, 1898, in which almost a full page was devoted to an address by the late Dr. George Beers, the prominent pioneer dentist of Montreal. This address was delivered forty years ago, at a joint meeting of the dentists of Quebec and those of the State of Vermont, the meeting being held at Rutland, Vermont. The article states that two years previously the Vermont State Dental Society held its regular meeting in Montreal, at the invitation of the dentists of the Province of Quebec. At this joint meeting held in Rutland, it is stated that the rooms were decorated with Union Jacks and Stars and Stripes. The design of the menu was conspicuous. It was a cut of the Union Jack and the Stars and Stripes crossed, and with the following motto underneath, "May they ever be united." Dr. George Beers was "Toast-Master" and the first toast presented to the large audience was "The President of the United States and the Queen of the British Empire." The audience then rose

and sang one verse of "My Country, 'Tis of Thee," and one verse of "God Save the Queen," and the response was most hearty.

Mr. Towne, of the S. S. White Company, in response to the toast, "The Empire of Great Britain and the United States," concluded his address as follows, "I would disparage no nation but I would invest with responsibility the two great English-speaking nations by a formal alliance, which I believe would hasten the time which humanity is praying for, when war shall be no more forever and every man will sit under his vine and under his fig tree; and none shall make him afraid. John Bull and Brother Jonathan! May they ever stand shoulder to shoulder for international justice and righteousness, and for the promotion of life, liberty and for the pursuit of happiness for all mankind."

On this very happy occasion the dentists of the United States and Canada met with similar ideals and were drawn together by the common bond of union, the dental profession.

During the forty years which have passed since this memorable occasion, events have transpired to unite the dentists of the United States and the dentists of Canada in the closest relationship of friendship and goodwill.

LON W. MORREY

JEROME H. TRIER

In 1918 the Canadian Dental Association held a joint meeting with the American Dental Association in the City of Chicago. Many similar invitations have been received which, for various reasons, could not possibly be accepted; however at every prominent dental Convention held in the United States many Canadian practitioners will be found there as guests and the cordiality of their welcome is indeed most delightful.

As editor of our official Canadian Journal, I would add my tribute to the gracious reception which has always been accorded me when visiting in our great sister republic, and to the very valuable assistance which has been so freely given to me by so many prominent dental leaders in that country in dealing with many problems relative to the editing of the JOURNAL.

The time has arrived when we feel that one further step should be taken to draw our two professional bodies still closer together and to this end three of the most prominent of America's dentists have been invited to act as correspondents for the JOURNAL OF THE CANADIAN DENTAL ASSOCIATION.

These men are Dr. John E. Gurley of San Francisco, California; Dr. Lon W. Morrey of Chicago, Illinois; and Dr. Jerome H. Trier of New York City. These men accepted the post of correspondent most graciously and we are assured of their hearty co-operation, so at this time we would officially introduce them to our Canadian dental profession.

Dr. Gurley was President of the San Francisco Dental Society in 1924; the California State Dental Association, 1926-27; the Pacific Coast Conference, 1926-29; the American Society for the Promotion of Dentistry for Children, 1929-30; American College of Dentists, 1932-33, and the American Association of Dental Editors, 1934-35. He was Instructor and Assistant Professor of Chemistry, College of Dentistry, University of California, 1908-28, and Associate Editor of the Journal of the American College of Dentists, 1933-34. He has been Chief of Staff, Children's Hospital, since 1920; Supreme Councillor and Editor, Psi Omega Fraternity, since 1927; Instructor in Professional Practice, Medical and Dental Assistants, Lux Junior College, since 1931. Dr. Gurley is a member of the American Association for the Advancement of Science, is a Fellow of the American College of Dentists, is President of the 1939 Golden Gate Dental Congress, San Francisco, and since January of this year has held the distinguished post of Editor of the Journal of the American College of Dentists.

Dr. Morrey was graduated from the Chicago College of Dental Surgery in 1923. Following this he became school dentist at Lake Forest, Illinois, in addition to carrying on private practice until 1927. From 1927-28 he was Director of the Dental Hygiene Bureau, Illinois State, Department of Public Health. From 1928-33 he was Chief of the Dental Hygiene Bureau, Chicago Board of Health. Dr. Morrey is a Fellow of the American College of Dentists and since 1933 has been Supervisor of the Bureau of Public Relations, and Director of the Scientific and Health Exhibits of the American Dental Association. His splendid achievements in this field of endeavour are well known in Canada and throughout the world.

Dr. Trier received his D.D.S. degree from New York University in 1921, and was made a Fellow of the American College of Dentists in 1938. He is a member of Omega Chapter of the Honorary Dental Fraternity, Omicron Kappa Upsilon, and Chief of the Orthodontia Department of Midtown and Sydenham Hospitals. He was Instructor and Lecturer in Orthodontics, New York University, 1921-27, and has presented papers and clinics before the First District Dental Society, Dental Society of New York State and the American Dental Association. Dr. Trier is immediate Past-President of the First District Dental Society of New York.

It is with particular pleasure that we present these three distinguished American dentists to the members of the Canadian Dental Association, and we feel assured that our relations will be most cordial, and that as a result of this happy arrangement the friendly relations already existing between the professions of our respective countries will be brought to even a higher plane of understanding and goodwill.

# BOOK REVIEW

**The Dentist and His Control of Practice,** by S. Joseph Bregstein, D.D.S., Brooklyn, N.Y.; Author of two editions of "The Business Conduct of an Ethical Practice." Published by Dental Items of Interest Publishing Company, 2921 Atlantic Avenue, Brooklyn, N.Y., 1939; 200 pages. Cloth $4.00.

This book is a sane, intelligent, ethical discussion of economic problems confronting the dentist and is published as a text book of dental office administration.

Chapter 1 is entitled "The Art of Contracting" and discusses the establishing of successful human relationships in the various phases of dental practice. Chapter 2 is on "Oral Diagnosis, Design and Treatment," outlining record systems, visual education, the interest of juvenile patients, etc. Chapter 3 deals with "Pain Elimination, a Factor in Practice Building." The heading of Chapter 4 is "The Dental Assistant and Controlled Practice Income," and describes the duties of the assistant, as credit manager, as to collections, as to methods of practice control, correct letter writing and telephoning, etc. Chapter 5 is entitled "Orientation" or The Dentist's Relationship to Oral Diagnosis, Pedodontia, Orthodontics, Public Health Education, Prosthesis and Tissue Function. Chapter 6 is on "Dental Ethics."

While no one could write a book on this subject with which all could agree, the reviewer considers this production to be of real merit. He cannot imagine anyone reading it without finding some very helpful suggestions and in the case of most men, very many such suggestions.—*M. H. G.*

# NEWS FROM THE PROVINCES

*ALBERTA:*

### Edmonton Dental Society

The annual Banquet and Dance of the Edmonton Dental Society was held at the MacDonald Hotel, on Feb. 4, 1939. Over forty couples attended, and included Dr. and Mrs. Ness of Camrose, and Dr. and Mrs. Ward of Leduc.

Dr. Grattan Roberts was the speaker for the event, and his witty discourse was enjoyed by all. Dr. and Mrs. Allan Day represented the Edmonton Academy of Medicine. Dr. Faust Gowda was chairman. Following the banquet, dancing was held until midnight.

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### Calgary Dental Society

The February meeting of the Calgary Dental Society was held in the Renfrew Building, February 13.

The regular program was cancelled and the entire evening spent in discussing, clause by clause, the proposed new Dental Act. We had as our guests, Dr. L. V. Janes, President of the Alberta Dental Association, Edmonton, and A. Blair Patterson, K.C., Solicitor for the Dental Association, Edmonton, and other members of the Board.

These men gave a thorough explanation of the new Act, and also of the Dental Mechanics Bill, which had already been introduced at this session of the Legislature.

The purpose of the Dental Mechanics Bill is to allow dental mechanics to take impressions, bites and try ins, and complete all dentures and removable replacements independent of the registered dentist.

The new Dental Act, which we hope to introduce is to counteract the Mechanics Bill, and at the same time bring the dental mechanics under its control. Among the changes which have been introduced, are several new clauses which make the penalties more severe for the illegal practice of dentistry.

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### Edmonton Dental Society

The regular meeting of the Edmonton Dental Society was held in the Macdonald Hotel, March 7, at 6.30 p.m.

Dr. J. J. Ower, Professor of Pathology, University of Alberta, addressed the Society on the "Aetiology of Cancer."

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### Dental Mechanics Bill Killed

On March 2, without recorded vote, the Alberta legislature killed a bill to license dental mechanics, giving them the right to

take impressions and make dentures for patients, independent of registered dentists.

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### School Survey in Edmonton

The third Dental Survey of Grades II, III, IV & V of the Edmonton Public Schools was conducted in November. Particular findings are as follows:

| | |
|---|---|
| a. Number of schools | 33 |
| b. Number of children examined | 5307 |
| c. Number of children found with no defects | 619 |
| d. Number of children found with defects | 4688 |
| e. Percentage of children with defects | 88.35 |
| f. Number of defective permanent teeth | 9700 |
| g. Number of defective deciduous teeth | 15,541 |

This survey is undoubtedly a most helpful step toward better dentistry for the child and a better health service, as well as providing the parent with correct and thorough information.

No doubt it is still early to draw comparisons from the results of these surveys, as they have been done for only three years. Yet it is interesting to note that although there has been an increase in the number of children examined each year, that the percentage defective has been reduced. In 1936, 95.38% were defective. In 1937, 94% and this year the percentage is down to 88.35%. In 1936 out of 4030 children examined only 186 were non-defective, whereas this year out of 5307 examined there were 619 non-defective, dentally.

## *SASKATCHEWAN:*

### Regina Dental Society

The Regina Dental Society is having a very successful winter season. Interesting dinner meetings are held the second Tuesday in each month, and so far they have been well attended.

The January meeting was held in the La Salle Hotel, with the President, Dr. D. H. Ross, in the chair. Dr. C. M. Henry, a local medical practitioner specializing in x-ray, gave a very fine talk on "Cancer of the Mouth." The speaker stressed the responsibility of the members of the dental profession for early diagnosis of cancer in their special field.

For the February meeting, the members met in the La Salle Hotel, as usual. The business of the meeting was conducted by the President, after which he called upon the speaker of the evening, Dr. A. M. McMurchy, of the Provincial Department of Health. Dr. McMurchy gave a very comprehensive survey of "relief" problems, with particular reference to medical and dental care of those on relief in the rural drought areas, which department is under his personal supervision.

The March meeting of the Society was held in the accustomed place, with the President in the chair. During the business meeting an invitation to the members of the Society to be the guests of the Moose Jaw Dental Society at a convenient date in April, was received and accepted. The Regina Society will provide the principal part of the program at the joint meeting. At this meeting, Dr. Walter Hancock, head of the Regina Municipal Dental Clinic, gave a splendid talk on the subject, "Habits in Relation to Malocclusion."

The dental "party," annually staged by the Regina Dental Society for the entertainment of the members and their ladies, took the form of a supper-dance, held at the Hotel Saskatchewan, on the evening of March 25. This is the feature evening of the year and was thoroughly enjoyed by all present. The idea might well be considered by other local dental societies as a means of fostering better acquaintance and good fellowship in the dental family.

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### Moose Jaw Dental Society

The Moose Jaw Dental Society held a dinner meeting in the Hotel Grant Hall on March 13, with the President, Dr. A. M. Lowey, in the chair. During the business meeting a communication from the City Commissioner, regarding additional necessary dental services for the indigent, was read. The president appointed a committee to consider the matter fully and report to the Society at a later meeting. Dr. A. F. Muirhead gave a fine report of the Midwinter Meeting of the Chicago Dental Society, which he attended.

*MANITOBA:*

### Winnipeg Dental Society

The March meeting of the Winnipeg Dental Society was addressed by two exponents of the same theme "How to liquidate our financial obligations, first, those owing us and second, those we may owe a hospital."

Dr. W. W. Wright by word of mouth and lantern slides gave an informative and practical discourse on "Collections" and who among us cannot learn much about that?

A representative from the Manitoba Hospital Service Association, operating at present only in the Greater Winnipeg Area, explained the benefits to be had from membership in the Association. For $9.00 a subscriber is ensured of 3 weeks' hospitalization in a semi-private ward once a year. This plan is working well in some of the large cities across the border and is enthusiastically approved by the hospitals and the medical profession; the hospitals because they are sure of their money and the doctors because the patient not having to pay a large hospital bill is in a better position to pay his doctor. There might even be some left to apply on a dental bill.

The Plan was unanimously approved by the Winnipeg Dental Society and every member has the opportunity of joining the Manitoba Hospital Service Association. Forty per cent. of the membership must join to make the plan available. Over 7000 Winnipeg citizens have already enrolled.

*ONTARIO:*

### Subscribers in Health Plan Number 4,000

The Associated Medical Services has the co-operation of about 850 of the 950 physicians in Toronto and listed subscribers now total well over 4,000, Dr. J. A. Hannah, General Secretary, said at a meeting of the Interprofessional Association in the Heliconian Club, on March 17. He said that the service was based on estimated costs and that it would be ten years or more before it could be definitely learned whether the present rates were equitable.—*Globe and Mail.*

### Kent Dental Association

Kent Dental Association was host to the London Dental Clinic on March 16, at which meeting the President of the Canadian Dental Association, Dr. Stephen A. Moore, addressed the gathering on the work of the Association. Dr. J. F. Giffin and Dr. Fred Fuller, of London, discussed the value of x-ray in locating caries. An amalgam clinic was given by Dr. G. F. Walden and a paper on gold foil, by Dr. George Roulston. Action of pulpotomy on teeth was described by Dr. D. A. Campbell and general dentistry was discussed by Dr. R. Kyprie, of Detroit.—*Windsor Daily Star.*

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### Class of 1914

The Class of 1914 will hold a reunion dinner during the Ontario Convention on Monday, June 5. Members of the class are asked to communicate with the President or Secretary.

E. Harold Campbell, *President,* 171 Yonge Street, Toronto.

Irvin H. Ante, *Secretary,* Medical Arts Bldg., Toronto.

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### Ottawa and District

Owing to the untimely death of Dr. W. H. Woodrow, recently re-elected to the Board of the Royal College of Dental Surgeons of Ontario, a bi-election was necessary to select a successor. The only nominee for the vacancy was Dr. Sydney W. Bradley of Ottawa. He is therefore elected by acclamation to represent District No. 1.

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### Elected Faculty Representative

Dean A. D. A. Mason was elected as Faculty representative to the Board of the Royal College of Dental Surgeons of Ontario at a recent meeting of the Faculty Council.

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### Educational Displays

The pictures of the two educational displays appearing in this section of the Journal represent, in part, the efforts of the Public Dental Health Committee of the Toronto Acad-

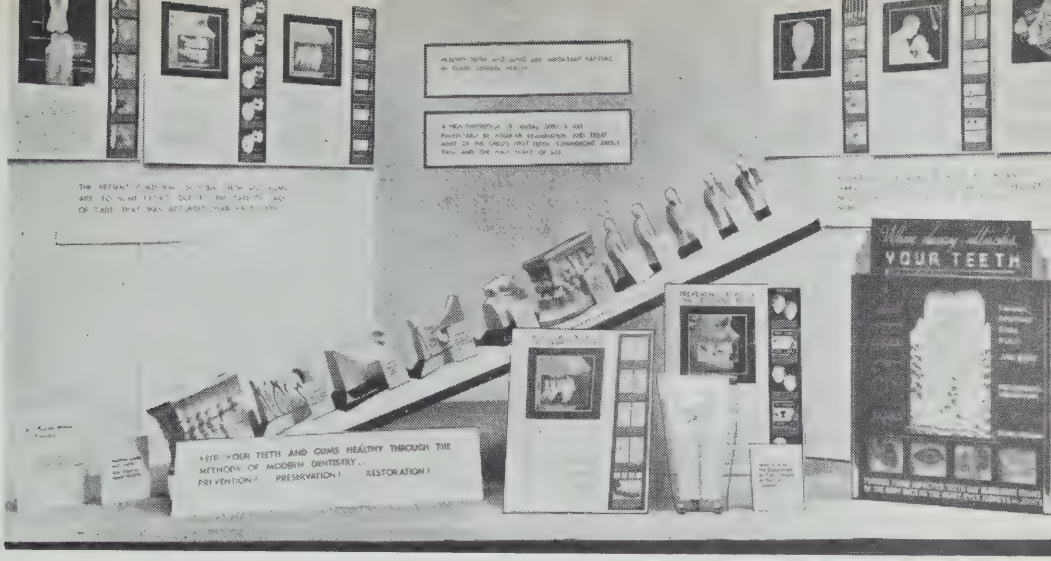


Figure 1.

emy of Dentistry. Fig. 1., shows a window display for a week of last November, through the courtesy of the Robert Simpson Company. Fig. 2., shows a window display for a week in January of this year through the courtesy of the T. Eaton Company.

Most of the material was obtained from the American Dental Association office in Chicago. The material was allowed to enter Canada in bond, free of duty, through the intercession of Dr. Stephen A. Moore, President of the Canadian Dental Association, with the Commissioner of Customs at Ottawa.

The value of visual presentation of public dental health problems is generally recognized and public appreciation was shown by the continual stream of interested spectators.

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**Workmen's Compensation Board**

The Workmen's Compensation Act of Ontario now provides dental restorations to workmen injured in industry who have suffered damage to or loss of either natural

Figure 2.

teeth or fixed bridge appliances. This is an important advance on the old system whereby the injured workman was allowed certain compensation in money for the tooth or teeth damaged. Sometimes the money thus allowed was not used for dental service. The Act now requires the injured person or claimant to take the Board's dental form No. 8B to his own dentist whereon the dentist records the condition of the teeth before the accident and the extent of dental injury resulting therefrom. The dentist further records on this form the emergent treatment that was necessary and finally what dental restoration he suggests, together with an estimate of cost according to the Board's tariff of fees.

The Workmen's Compensation Board reports that their relations with the dental profession have been very cordial and the co-operation is greatly appreciated. In order to encourage this co-operation it is suggested that members of the dental profession doing industrial work should carefully read the instructions on the Board's form, especially where it is stated that before restorative work is proceeded with, the Board's approval must be obtained. Observance of this regulation will avoid misunderstandings which are unpleasant both to the dentist and to the Board.

C. G. Cameron,
Medical Aid Officer,
Workmen's Compensation Board.

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### Dental Nurses' Alumnae Raise $80

In aid of their Benevolent Fund the Dental Nurses' Alumnae Association of Canada sponsored a bridge at the I.O.D.E. headquarters, Toronto, on Wednesday evening, February 15th. Miss Dorothy Collett, President, and Miss Eleanor Crerar, Social Convener of the committee, received the guests numbering nearly 300. Miss Crerar was assisted in the arrangement of details by Misses Mildred Brown, Marjorie Joyner and Audrey Cowling. The party was a splendid success; no end of novel lucky number prizes were presented to fortunate players and everyone seemed to enjoy themselves immensely. The Alumnae Association used the moneys raised from time to time for their Benevolent Fund in paying the cost of dental treatment for needy underprivileged children.

### Toronto Academy of Dentistry

Newly elected officers of Toronto Academy of Dentistry for 1939-40:—

Past President—Dr. H. W. Hoag
President—Dr. W. G. Trelford
President Elect—Dr. R. W. Hoffman
Secretary—Dr. E. T. Guest
Treasurer—Dr. S. A. MacGregor
Councillors—
District 1. Dr. L. M. Grose
District 2. Dr. W. T. Holmes
District 3. Dr. L. M. Twible
District 4. Dr. Russell Bennett
District 5. Dr. Lloyd Sterling.

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### Dental Nurses Alumnae Association

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On Tuesday evening, March 14th, the monthly meeting of the Dental Nurses' Alumnae Association was held at the Dental Faculty. The guest speaker, Dr. Frank Cole gave an entertaining and interesting talk on "Colour". In the absence of our President, Miss Marjorie Joyner, Vice President, presided. Refreshments were served by Miss Eleanor Crerar and her committee.

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### Dental Nurses and Assistants of Ontario

TORONTO—On Monday, March 6th, the Toronto Chapter met in the Royal York Hotel with Miss Buik, President, in the chair. Miss Tomye Turner presented an interesting paper on "Office Routine" and Miss C. Simpson one

on "The Dental Assistant in X-Ray". An illustrated talk on the "Life and Customs of Japan" was delightfully given by Mr. Wm. Barker of Runnymede Collegiate staff. A course of four lectures was announced by the President to be given by prominent clinicians through the co-operation of the Academy of Dentistry to the members during the month. This was heartily received by those present.

HAMILTON—The February meeting of the Hamilton Chapter took the form of a dinner at the Wentworth Arms Hotel given by the Hamilton Dental Association. After dinner Dr. E. T. Salmon of McMaster University spoke on "Present-Day Roumania". Dr. Salmon's address was most interesting.

LONDON—The members of the London Chapter of Dental Assistants met for their monthly meeting in the office of Dr. W. Y. Hayden and after the business of the time was dealt with Dr. Hayden spoke to them on "Office Routine" and many splendid suggestions were brought out.

WINDSOR—The Assistants of Windsor City met for their March meeting in the Canada Building with Mrs. Irene McNair presiding. After a short business session Mrs. Sills, an active member of the Canadian Red Cross, gave an interesting talk on the "Dental Assistant".

THUNDER BAY—The Assistants of Port Arthur and Fort William held their regular February meeting in the office of Dr. Blatchford of Fort William. After the business meeting of the evening, Miss McPhee, a Metropolitan Nurse, gave a discussion "Foods and Their Value" which proved most helpful. Refreshments were served at the close of the evening by the Fort William members.

*QUEBEC:*

### Montreal Dental Club

In the month of February two very interesting and well-attended meetings of the Montreal Dental Club were held in the club rooms, 1414 Drummond Street. The first of these meetings was addressed by Dr. R. A. Ramaker, on the subject, "Early Dental Aetiological Factors Occurring during Child Birth with Some Thought as to their Immediate Correction." Several local obstetricians availed themselves of the opportunity of being present, and showed keen interest in the lecture.

The second meeting was addressed by one of the newer members of the Club, Dr. A. G. Racey who has recently returned from Boston, where he spent a year in post-graduate study in oral pathology at the Harvard School of Dentistry. His subject dealt with the lesions of the hard and soft tissues of the mouth, and he informed his listeners of the current school of thought about these lesions. Dr. Racey was sincerely congratulated by the members of the Club on his presentation.

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### Mount Royal Dental Society

Dr. Gerald Franklin, President of the Mount Royal Dental Society, addressed the members of the Society on February 14, his subject being "The Histology and Physiology of Bone and Periodontal Membrane." Dr. Franklin held the interest of his audience throughout the full length of his address. The discussion which followed was a revelation to the members that so many dental graduates were interested enough in such a subject to keep up their studies and to be able to discuss intelligently a subject which is usually left to investigators. Dr. Franklin was warmly praised for the calibre of his thesis.

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### Montreal Dental Nurses and Assistants Association

At the annual dinner of the Montreal Dental Nurses and Assistants Association held on February 7, the following officers were elected: Honorary President, Miss Mildred Starr; President, Miss Martha Barber; 1st Vice-president, Miss Lilian Fincher; 2nd Vice-president, Missl Eve Miron; Recording Secretary, Miss Ardis Crowell; Corresponding Secretary, Miss Dorothy Ryan; Treasurer, Miss Norah Johnson; Conveners of Committees: Clinic, Miss Grace Robinson; Program, Miss Nancy Reid; Publicity, Miss Dorothy Ross; Social, Miss Suzanne Lamarre; Membership, Miss Dorothy Arnett; Reception, Miss Mel Rundle; Advisory Committee: Dr. Campbell Morris, President of the Montreal Dental Club, Dr. G. M. Hale, and Dr. R. E. McMahon.

The regular monthly meeting of the Mont-

real Dental Nurses and Assistants Association was held on March 7 in the club rooms, Medical Arts Building, Miss Martha Barber, presiding.

Mr. J. L. Baker, of Henry Birks & Sons, gave a very interesting talk on "History and Romance of the Diamond."

Refreshments were served at the close of the meeting.

*NEW BRUNSWICK:*

**Woodstock Rotary Club**

The Woodstock Rotary Club Dental Clinic has been functioning since January 1. A dentist has been engaged for two half days a week and a great deal of work is being done for the children in the lower school grades, whose families cannot provide them with proper dental care.—*St. John Telegraph-Journal.*

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**Identification of Fire Victims in Halifax Hotel**

St. John dentists have made notable identifications of bodies removed from the razed Queen's Hotel in Halifax, by the accuracy of their dental records. In many cases this has been the only means of identification.

*NOVA SCOTIA:*

**Free Dental Clinic**

The local Y's Men's Club of Yarmouth, on February 14, resolved to establish a free dental clinic for children attending all public schools. The Club obligated itself to the extent of between $500 and $800 and planned to place its proposition before the Town Council.—*Halifax Herald.*

*BRITISH COLUMBIA:*

**Vancouver Dental Society**

"The Necessary Requirements for Successful Operative Dentistry" was the title of the paper presented at the regular monthly meeting of the Vancouver Dental Society by Joseph S. Bricker. The following are excerpts from his paper:—

Sir William Osler stated "There is not one single thing in preventive medicine that equals mouth hygiene and the preservation of the teeth." This statement should make us pause before proceeding with any reconstruction in the mouth. Be satisfied that every angle of treatment is considered in order to restore the oral cavity to a healthy condition. Dentistry is a specialty of medicine that deals with the oral cavity and associated parts; therefore just so far as the dentist is able to recognize conditions of health and disease, is he able to render the oral health service that the patient has a right to expect.

"That there is but one true diagnosis," is common to both the medical and dental professions. Establish that and your therapy will be automatically indicated.

Patients of middle age present the greatest amount of reconstruction and the greatest cause is that of traumatic occlusion. If functional wear has developed under normal jaw function the change of tooth form will be symmetrical and harmonious; if not then look for pathological symptoms and relieve them; if wear has not taken place at all it is a definite indication of the lack of function.

Extensive reconstruction should never be undertaken until all pathological conditions have been corrected. The failure of any type of bridgework, either fixed or removable, is primarily due to improper diagnosis.

To protect the adjacent tooth from mutilation during cavity preparation insert a piece of shim metal that has the ends folded to hug the teeth. The folded ends prevent its movement and also the metal acts as a guide in the preparation.

"Fixation of abutments in fixed bridgework has not been proved conclusively to be deleterious or harmful, nor has removable bridgework solved the oral problems of oral sanitation." But when the failure is due to fixation of the abutments it is because there has been improperly constructed attachments or too great convergence of the walls or grooves or improper heat treatment of the assembled bridge, or the use of unsatisfactory gold alloy. A two surface inlay has no place in fixed bridge work with a solder joint, unless of a pin ledge type. Greatest retention is obtained by the axial grooves being parallel.

All pontics should be highly glazed and should not come in contact with the soft

tissues, but just to it. In immediate insertion the porcelain tips should be placed just within the socket.

The popular estimate of fixed bridgework seems to be inseparably associated with the idea of mechanics, yet its conception and successful application depends entirely upon the practical knowledge of anatomy, physiology, and the closely allied sciences of pathology and therapeutics, and it seems quite certain that the employment of bridgework in general would meet with more universal success if the dentists who perform those operations would more exhaustively familiarize themselves with the anatomy, histology, physiology and pathology of the living tissues and structures involved and accordingly make bridgework subservient to them, and therefore regard mechanics only an incidental but necessary procedure in their construction.

Dr. Emory C. Jones opened the discussion, and stressed the many points made and also the need that every dentist should be able to construct his own bridgework so that he could definitely instruct his technician in the construction of it. The use of the rubber dam was also discussed and the feeling of the men was that for accurate and definite technical procedure the rubber dam is of the greatest benefit. Dr. J. Mark Prime has 57 reasons for its use.

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### B.C. Dental Association

The Annual Meeting of the British Columbia Dental Association will be held in the Empress Hotel, Victoria, May 12-13.

The guest speaker and clinician will be Dr. D. W. McLean, Los Angeles, Cal. Dr. McLean is one of dentistry's outstanding teachers. He will speak on "A Life Program in Everyday Dental Practice," covering occlusion, prevention in childhood and on through the bridge and partial denture periods of life. Six hours will be used to cover the field. This will be a real opportunity for all to gain advance knowledge of preventive dentistry.

All branches of dentistry will be covered by chair and table clinics,—Porcelain Inlays and Jackets, by Argue Porcelain Study Club; Amalgam, by Dr. J. Gansner, Nelson; Go'd Inlays, by Dr. C. T. Fleetwood, Seattle, and Dr. W. K. Sproule, Vancouver; Exodontia, by Dr. Roy West, Seattle; Procaine Solutions, by Dr. L. L. Foote, Seattle; Gold Foil, by Ferrier Study Club; Childrens Dentistry, by Dr. J. A. Sampson, Vancouver; Orthodontia, by Dr. W. J. Lea, Vancouver; Radiodontia, by Dr. L. Osterhout; Control of Infection, by Dr. L. G. Robinson; Pyorrhea, by Dr. R. McDougall, Victoria; Prosthetics, by Vancouver and Victoria Ante Study Clubs; and other clinics will make this an outstanding meeting.

Cocktail parties and dinner dance, as well as entertainment for the ladies, with golf and luncheons will complete the program.

All dentists in good standing with their provincial and local societies are welcome. Registration May 12, Empress Hotel, Victoria, at 8:30.

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Drs. William J. Lea and Pete Wescott attended the Pacific Coast Society of Orthodontists at San Francisco. They also visited the Exhibition.

## EMPIRE NEWS

*GREAT BRITAIN:*

### Dentists and Dental Decay

Dental decay could be prevented by proper diet, said Sir Leonard Hill, the physiologist, in his presidential address to the conference of the Association of Sanitary Inspectors. Declaring that toothbrushes and dentists "had done nothing," he said that what was wanted to stop the mischief was whole wheatmeal, milk, butter, cheese and vegetables, a little meat, and some hard food to exercise the jaws.

"Feeding children on white bread and cheap margarine and jam," he added, "is like supplying petrol to a car without lubrication to the engine or water to the battery."—*The Dental Magazine and Oral Topics, January,* 1939.

*AUSTRALIA:*

### Dental Congress

The Congress of the Australian Dental Association, to be held in Melbourne next August, will make available the latest achieve-

ments of the men who are the profession's silent research workers. Investigations carried out at the Dental Metallographic Research Laboratory of the University of Melbourne are of the greatest practical importance.

As private practitioners we can also contribute to dentistry's progress by equipping ourselves with up-to-date instruments, plant and materials, and keeping in step with the march of ideas. A Dental Congress is a large-scale post-graduate course, with a great deal of social enjoyment thrown in. No dentist should miss this Congress in Melbourne next August.

*SOUTH AFRICA:*

**Minimum Fees**

In any dentist's waiting-room in Johannesburg it is common to find sitting side by side, patients whose income is £3,000 to £4,000 a year, and patients who earn £150 a year, or less.

It has always been difficult for dentists to adapt their charges to this state of affairs. The rich man can afford and is agreeable to pay £25 for dentures. This fee, however, is quite beyond the income of the poor man. Frequently, however, both rich and poor are receiving identical treatment, and it thus becomes essential for the dentist to determine what is the minimum fee he can afford to accept. In Pretoria, the dentists agreed among themselves on a scale of minimum fees. The Johannesburg dentists are now attempting to reach agreement on the same subject, but it is doubtful if any solution can be arrived at until such time as the profession, the Government or some other body can make arrangements for dental treatment for those who cannot afford to pay even the minimum fee of a private dentist. At present many dentists provide their poor patients with dentures at a fee of five or six guineas. The minimum fee in Pretoria, however, is twelve guineas. What is to happen to the poor man who cannot afford this sum for his dentures?

Presumably, at present the poor man in Pretoria visits Johannesburg. It is to be feared that if the scheme is approved the consequences may be serious. It will probably lead to a large increase of Benefit Societies and "contracts", and may even encourage patients to go to unregistered practitioners. It may result in the introduction of a National Health Scheme or, alternatively, the Government may withdraw from the profession some of the privileges it now enjoys. It is inconceivable that the Government will allow a profession which it protects by legislation to demand fees which a large proportion of the population are unable to afford.

Nevertheless, there is much to be said in favour of the scheme. The present tendency is for fees to become lower and the standard of treatment to become worse. If it were possible to improve the standard of treatment by increase in fees it would be justifiable to seek ways and means of providing treatment for those who cannot pay the increased fee. At present, however, we are putting the cart before the horse. It is necessary first to provide for the poor man and then to adjust our fees to the new position which will arise.—*Dental Magazine and Oral Topics, Feb., 1939.*

*MALAYA:*

**Malayan Dental Association**

A Dental Association has recently been formed in Malaya to include British Malaya and its associated territories, Christmas Island and Labuan, the organization meeting being held in Singapore. This new Association has become affiliated with the British Dental Association.

## GENERAL NEWS

**Program of Western Canada Dental Convention, Winnipeg, May 29-31**

All plans are made for an unusually fine program for the Convention of the Western Canada Dental Society being held in Winnipeg, May 29-31. As this Convention is held only every two years and is arranged for the dentists of the three prairie provinces, Alberta, Saskatchewan and Manitoba, it is expected that there will be a large attendance.

The following five internationally-known dentists will appear on the program as guest speakers:—

Dr. John B. LaDue, of Chicago; Dr.

George A. Morgan, of Toronto; Dr. Edward J. Ryan, of Evanston, Illinois; Dr. Stanley D. Tylman, of Chicago, and Dr. F. J. Viner, of Omaha, Nebraska.

John B. LaDue, D.D.S., is a past-president of the Chicago Dental Society and the National Society of Denture Prosthetists. Since 1920 he has limited his practice to full denture construction. He has given many lectures and courses in his chosen field of endeavour and will bring a message to this Convention on "Full Dentures."

George A. Morgan, L.D.S., D.D.S., for over two years held a fellowship at the Mayo Clinic and is connected with many dental organizations and hospitals in Toronto, where he limits his practice to dental x-ray, diagnosis and exodontia. He will speak on these subjects at the Convention, illustrating his remarks with slides and many hundred feet of film.

Edward J. Ryan, D.D.S., B.S., is editorial director of Oral Hygiene Publications, including The Dental Digest, Oral Hygiene and Spanish Oral Hygiene. He is also a past-president of the Chicago Dental Society. Dr. Ryan maintains a general office practice in addition to his editorial and many other duties. He will address the Convention on the subject of "A Preface to Dental Practice" and on "The Technique for the Destruction of a Dental Practice."

Stanley D. Tylman, D.D.S., B.S., M.S., is Professor of Prosthetics and head of the Department of Crown and Bridge, College of Dentistry, University of Illinois. He is a past-president of the Chicago Dental Society as well as the former editor of the Bulletin of the same Society. He will bring to the dentists of Western Canada the results of many years of experience in the field of Crown and Bridgework, discussing principles and methods, illustrated by means of slides, charts, etc.

F. J. Viner, D.D.S., F.A.C.D., is Dean of The Creighton University, School of Dentistry. He is President of Omaha District Dental Society; Past-President of the Creighton Dental Alumni Association and contributing editor to the Apollonian. He is well known for his research work in the field of amalgams and zinc cements and plans to bring to the dentists of Western Canada some of the results of his efforts.

### Interim Report of the Canadian Dental Association Committee on the Canadian Army Dental Corps.

On November 28, 1938, a formal delegation of the Canadian Army Dental Corps Committee of the Canadian Dental Association, waited upon the Honourable Ian MacKenzie, Minister of National Defence, in Ottawa, to present for his consideration certain recommendations regarding dental services in the defence forces of Canada. The delegation was composed of Stephen A. Moore, London, Ontario, President of the Canadian Dental Association; Ira W. Hamilton, Ottawa, Chairman of the Canadian Army Dental Corps Committee; W. G. Trelford, Toronto; J. F. Blair, London, Ont.; E. T. Bourke, Montreal and F. J. Lott, Toronto. This deputation was most graciously received by the Minister, who had previously instructed the Adjutant-General, Brigadier H. H. Matthews, to be present. Different matters pertaining to dental services were discussed and the Minister suggested that possibly our delegation would like to meet the Adjutant-General and go more fully into the details of the different matters.

At a subsequent meeting, the delegation was received by Brigadier Matthews and the different questions involving dental services were more minutely discussed. No definite action was taken, but the delegation was asked to prepare further reports for submission to the Department.

The delegation waited upon the Minister in the morning and spent the afternoon with the Adjutant-General. At both times we were received in a kind and gracious manner and permitted to discuss the different questions fully and in a way satisfactory to all.

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### Survey Shows Millions of Americans Would Back Voluntary Health Insurance System

On top of the President's message to Congress last week on the National Health Program, and on top of Senator Robert Wagner's announcement that he would translate the health program into legislation came a survey which revealed that millions of the population were willing to enroll themselves in a voluntary insurance system to protect themselves against the costs of medical care. The

survey was conducted by the American Institute of Public Opinion which uses scientific cross-section methods in order to find out what the public is thinking on issues of the day.

"The institute's study, which comes after months of debate on the merits of health insurance by physicians, medical economists and government officials, indicates that approximately 25 million persons would be interested in paying as much as $3 a month for complete medical and hospital protection.

"This is a figure which many economists believed would be 'the top' for guaranteed medical care. Some existing insurance plans are providing such care for as little as $2 a month.

"If the cost were limited to this latter figure, the institute survey indicates that approximately 32 million persons would be interested in taking advantage of the plan.

"After a year of controversy, the American Medical Association, most important group representing the nation's physicians, has indicated that it will offer no opposition to health insurance as long as it is voluntary and not compulsory as it is in some European countries.

"The Institute survey indicates that the bulk of the potential customers for medical and hospital insurance comes from the upper and middle economic groups. They come, in other words, from those earning at least $20 a week.

"But a larger group of Americans in the lower income group earn less than this figure, and their replies show that many of them are not likely to be reached by ordinary voluntary health insurance plans. Many of those interviewed in the lower income group in the survey say that the 'cost is still too high' or that they could only afford to pay $2 or $3 a month 'if the whole family can be included for that'.—*Bul. Chi. D. Soc., Feb.* 3, 1939.

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### Dental Services in Hospitals

Dr. Harvey W. Ried, 193 Yonge St., Toronto, and Dr. G. Vernon Fisk, 818 Medical Arts Bldg., Toronto, Ontario, have been appointed to represent the Canadian Dental Association on the Committee on Dental Services in Hospitals of the American Hospital Association.

### To Our Canadian Brothers

The Arrangement Committee for the Annual Session of The Dental Society of the State of New York has completed a program, that promises to be one of the best meetings ever held by the New York organization.

A great deal of time has been spent in creating a teaching session, which will benefit those in attendance. Plans have been carried out in arranging Scientific Sessions, Clinics, Topic Discussions, etc., which together will form a program so well balanced, that there will be something for everybody.

Do not miss the opportunity of figuratively killing two birds with one stone; or if you never kill a bird, come anyway—Visit the New York Meeting—Visit the World's Fair.

The dentists of New York State will hope to greet many dentists from the Dominion, at the Annual Meeting of The Dental Society of the State of New York, May 9-12, 1939, Hotel Pennsylvania, New York City.

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### 75th Annual Midwinter Meeting of the Chicago Dental Society

The registration at the above Convention was as follows:—

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|---|---|
| Chicago | 2,379 |
| Illinois | 606 |
| Out of State A.D.A. members | 1,934 |
| Canadians | 29 |
| Foreign | 23 |
| Visitors | 3,978 |
| Exhibitors | 1,370 |
| TOTAL REGISTRATION | 10,319 |

The Limited Attendance Clinics, presented for the first time this year, won enthusiastic approval.

In the Scientific Exhibits the first award went to the Carnegie Fellow Research Fellows of the University of Rochester, N.Y., dealing with the causes of dental caries. The second award was made to the N. Y. Institute of Clinical Oral Pathology. The third award went to Dr. Weston A. Price, of Cleveland, for his studies of the primitive races.

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### Post-Graduate Courses

The Prosthetic Department of New York University College of Dentistry announces two

post-graduate courses in Full Denture Construction:—

1. A full-time course (Course A), daily from 8 a.m. to 1 p.m., beginning on Monday, May 15, and ending on Saturday, May 20, 1939.
2. A part-time course (Course B) will be given every Friday from 1 p.m. to 6 p.m., starting May 26, and ending June 30, 1939.

For further information, communicate with the Office of the Dean, New York University College of Dentistry, 209 East 23rd Street, New York, New York.

## IN MEMORIAM

**Joseph Lewin Payne,** O.B.E., M.R.C.S., L.R.C.P., L.D.S. Eng., aged 66, died suddenly in London, England, January 31.

Empire dentistry has suffered a great loss in his passing. He was a Past President of the Metropolitan Branch of the British Dental Association; the Odontological Section of the Royal Society of Medicine and of the British Society for the study of Orthodontics. He was a member of the Board of Examiners of the Royal College of Surgeons of England, and External Examiner for the Universities of Birmingham and Leeds; also Honorary Dental Surgeon to Epsom College. During the whole of his career he contributed frequently to scientific literature and discussions.

Outside the medical and dental world he was interested greatly in many social and religious works. He was a man of great energy, ability and integrity. His intimate friends say of him that he was a true Christian gentleman with the strong conviction that he should and did serve his Maker and his fellow man as each would wish.

As he was one of the Empire Correspondents of the Journal of the Canadian Dental Association almost from its inception his loss will be doubly felt by dental leaders throughout Canada.

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**John S. Ibbotson,** of Montreal, Quebec, aged 74, died suddenly March 5 in the Western Hospital. He practised in Montreal for over fifty years prior to his retirement in 1936. He was dental surgeon at the Montreal General Hospital for a number of years before the faculty was founded at McGill University. Dr. Ibbotson was appointed to the Board of Governors of the College of Dental Surgeons of the Province of Quebec in 1912. In 1914 he was made registrar of the board; in 1915, vice-president, and in 1916, president, a position which he held until 1919. At the time of his retirement he was honoured by the Montreal Dental Club in recognition of his services.

He also played an active part in militia affairs. During the war he enlisted with the rank of major and was second in command of the 1st Battalion.

He was a member of the St. James Club, the Royal Montreal Golf Club and a life member of the Montreal A.A.A. He was also a reserve member of the Black Watch (R.H.R.) of Canada. He was a Mason and also attended the Church of St. James the Apostle.

Dr. Ibbotson is survived by his three sisters.

•

**Robert M. Armstrong,** of Oshawa, Ontario, aged 69, died suddenly February 26, following several years of poor health. He taught school several years prior to graduating from the Royal College of Dental Surgeons. He commenced practice in Oshawa in 1897 where he has resided ever since.

He was one of the city's most ardent fishermen. During his earlier years, Dr. Armstrong was a member of the city lacrosse team on which he played with distinction. He was also a member of the Queen's Own Regiment and the Masonic order. He will be remembered for his many acts of kindness to those in distress.

•

**Mrs. Josephine Irwin Wells,** of Toronto, Ontario, aged 82, died March 17. Dr. Wells was the first woman to graduate from the Royal College of Dental Surgeons,

Toronto. She took up dentistry when the health of her late husband, Dr. John Wells, began to fail. She was graduated in 1893 and practised for some years but later devoted herself to dental services in public institutions under the direction of the Ontario Government. She was superannuated in 1928 when she was 72. She was a member of the Church of Christ.

Dr. Wells is survived by one daughter, two sons, a sister and a brother.

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**Hezekiah Allen Clark,** of Brockville, Ontario, aged 63, died suddenly March 19. He was graduated from the Royal College of Dental Surgeons and practised in Brockville until his retirement two years ago. He was very interested in horticulture. He was elected a Conservative member of the Legislature in 1923, re-elected in 1926 and 1929 and was defeated in 1934. He was also a member of the town council for one year.

Dr. Clark is survived by his widow and a half-sister.

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**Fr. Frederic Siedenburg,** of Detroit, Michigan, aged 67, died suddenly February 22. Although he was above all else a Catholic priest, he was also constantly in the public eye as an outstanding authority on sociology and economics. He made a great contribution to dentistry on its educational side.

There are eight Jesuit universities in America which have schools of dentistry, the last of which was inaugurated by the University of Detroit in 1932. Fr. Siedenburg was charged with this latter responsibility and obtained the co-operation of Dr. W. E. Cummer, of Toronto, now Fr. Cummer, who acted as its first Dean.

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**Walter Holland Irvine,** aged 39, of Boston, Mass., died March 14, of pneumonia. He was the son of the late Dr. and Mrs. W. J. Irvine, of Fredericton, N.B. He served in the Great War and on his return spent one year at the R.C.D.S., then finished his course at Harvard. Since then he has practised in Boston but has visited New Brunswick a number of times as guest speaker at dental conventions.

**Miss Huilota S. Dykeman,** of St. John, N.B., died February 27, following an illness of several months. She gave unstintingly of her time and effort in the organization and direction of public health nursing and was widely known throughout New Brunswick. She was of great assistance to the dental profession during the campaign of the Canadian Dental Hygiene Council, held a short time ago in that province.

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**Mrs. Abbie Llewelyn Walker Glass,** of Toronto, Ontario, who practised dentistry as Dr. Abbie Walker died March 2, in Toronto General Hospital. She was one of the early women graduates of the Royal College of Dental Surgeons of Ontario. She was a member of the University Women's Club, the Dental Alumnae and the Weston Golf and Country Club.

•

**Lowell A. Rowe,** of Somersworth, P.E.I., aged 68, died January 28, following only a few hours of serious illness, before which he had enjoyed a social evening at home with his wife and friends.

He received his early education in the Hampton schools and later studied dentistry with Dr. William B. Blackstone, of Manchester, with whom he practised for a number of years. Thirty-one years ago he moved to Somersworth where he was held in high esteem by all who knew him.

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**John Beverley Patterson,** of Stayner, Ontario, aged 54, died February 26. He was graduated from the Royal College of Dental Surgeons and practised dentistry in Stayner for over a quarter of a century. He was a member of the Presbyterian Church.

Dr. Patterson is survived by three brothers and one sister, all in Western Canada.

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**Arthur Edgar Mertz,** of Calgary, Alberta, aged 61, died suddenly March 4. He was born at Newstadt, Ontario, and later was graduated from the Dental Department, University of Toronto. For the past twenty-seven years he has practised in Calgary and has been a member of the Calgary Dental Society for many years.

## . . . SECTION FRANÇAISE . . .

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# *Le Congrès*

Comme nous l'avons déjà annoncé, un événement de première importance pour toute la profession dentaire aura lieu jeudi le 8 juin prochain, alors que se réunira à Montréal le 5ième Congrès des Chirurgiens Dentistes de langue française de l'Amérique du Nord et des Antilles Occidentales. Des milliers d'invitations ont été envoyées par tout le Canada, aux Etats-Unis, au Mexique, à Haiti. Déjà les adhésions arrivent tous les jours plus nombreuses.

Les quartiers généraux du Congrès seront établis à l'hôtel Mont-Royal. Le Comité d'organisation est heureux de vous informer qu'à la suite de démarches faites auprès de certains confrères et de certaines Associations, les résultats de ce Congrès sont déjà très prometteurs. Cependant pour assurer le succès de cette manifestation professionnelle, le Comité compte beaucoup sur le concours de tous les membres de langue française de la profession. Il compte sur votre appui moral afin de lui aider à établir encore une fois que la science dentaire dans Québec est bien vivante et demeure toujours "l'attirance essentielle des hommes qui entendent donner un sens à la vie."

Nous vous présentons un programme préliminaire. Comme par le passé, vous constaterez que le Comité d'organisation n'a rien épargné pour faire de cette réunion "l'événement par excellence" de l'année professionnelle 1939.

CONFERENCES: Des conférences seront données par les docteurs, Antonio Barbeau, A. French, A. Thibaudeau, D. P. Mowrey, A. L'Archevêque, J. A. Thibert, Ernest Charron, Moise Clermont, V. Dubé, d'Edmonston N-B. et par quelques autres dentistes dont les noms vous seront donnés plus tard.

CLINIQUES: Des cliniques sur tables seront données par les docteurs; Jacques

Lantier, Théo. Côté, Henri Lemieux, A. Thibaudeau, Gabriel Lord, R. Lamontagne, G. Demontigny, Louis Lépine, Gérard Baillargeon, R. Sarrazin, Conrad Godin, Roland La Salle, Conrad Archambault, A. Plessis-Bélair, Maurice Gosselin, Lucien Reeves, J. Lane Charpentier, Georges Larue, Gérard Plamondon, Viger Plamondon, Jules Tétreault, Arthur Renaud, Xiste Laberge, J. H. Kent, A. Bédard, Paul Geoffrion, P. E. Joly, Jules Thébaud et plusieurs autres.

FILMS SCIENTIFIQUES: "Traitement chirurgical de la Pyorrhée" par le Dr. A. W. Ward, San Francisco, "Infection de Vincent" par le Dr. R. H. Reilley de Chicago, "Dentier complet" par le Dr. D. T. Chase de Portland, Oregon. "Technique de l'impression par sections" par le Dr. F. E. Roach de Chicago. "Diagnostic des difformités Dento-Maxillo-faciales, Extractions difficiles" par le Dr. S. M. Moose, San Francisco.

BOITE AUX QUESTION: Une après-midi entière sera consacrée à l'étude de problèmes d'intérêt pratique. La discussion sera sous la direction du Dr. Ad. L'Archevêque. Prendront part à cette discussion les docteurs; Henri Lemieux, Jules Thébaud, Yves Lafleur, Gérard Demontigny, Ernest Charron, Paul Geoffrion, Philippe Hamel, Conrad Archambault, Gérard Baillargeon, A. Sarrazin, Gérard Plamondon, J. Lane Charpentier, Moise Clermont, J. P. Lantier, J. A. Renaud, et A. Thibaudeau.

PAUL GEOFFRION.

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# *La Décalcification et Nutrition*

par J. EMILE BEAULIEU, D.D.S.,

La pensée et l'action des Ligues de Sécurité sont éminemment humanitaires. Eviter des accidents, épargner à un grand nombre des blessures, des infirmités et des morts violentes, sauver des vies, voilà son noble but. Cependant, cette vie qu'on sauve, la vie de chacun de nous en particulier, donne-t-elle tout ce qu'elle pourrait donner en santé, en force, en bonheur? A-t-elle son plein rendement et pour l'individu et la société? S'occupe-t-on de l'améliorer en la transmettant, de génération en génération, pour former peuple assez vigoureux pour réaliser ses ambitions?

Je me suis souvent posé ces questions dans l'exercice d'une profession qui m'a mis en contact avec une foule de cas de pitoyable affaiblissement ou même de dégénérescence physique. Dans la pulpart de ces cas, j'ai discerné la cause immédiate, qui est la décalcification si fatale au système osseux et à tout l'organisme, et la cause lointaine et générale, qui est l'alimentation et qui agit tout le long des années qui composent une vie humaine.

Je vous parlerai donc des ravages de la décalcification chez nos compatriotes, de ses causes et du moyen le plus important d'y remédier: la nutrition.

D'après les statistiques, nous constatons que 97 ou 98% des élèves qui fréquentent les écoles souffrent de carie dentaire. Ceci nous donne une idée des lacunes de notre ossature et du peu de résistance de notre organisme. La carie dentaire signifie que notre santé générale laisse à désirer, que nos organes fonctionnent imparfaitement, que la nutrition n'est pas appropriée.

Chacun de nous souffre ou a souffert plus ou moins de décalcification. Bien peu nombreux sont ceux qui peuvent se vanter de n'avoir jamais souffert de carie dentaire.

Un peuple qui souffre ainsi collectivement porte en lui-même une tare dangereuse.

Quel est donc la cause d'un mal aussi étendu? Il nous vient, de certains défauts de la civilisation actuelle, où l'on a pu faire de prodigieux progrès dans la mécanique, mais où l'intelligence, oubliant l'importance et les principes de la bonne nutrition, suit des habitudes, des routines, le caprice du goût, comme si chez l'homme, l'instinct ne devait pas être aidé et corrigé par la raison.

L'homme commence par une cellule. Pour composer, développer et multiplier cette cellule, il faut les éléments voulus.

Notre corps a une merveilleuse unité qui s'entretient par elle-même. C'est un laboratoire aux fonctions multiples. Permettez que nous en examinions quelques-unes, et nous verrons que notre décalcification a de nombreuses relations avec notre santé générale.

La carie dentaire résulte de l'insuffisance de sels minéraux dans l'organisme et surtout du fonctionnement anormal de nos glandes à sécrétion interne ou endocrines. Toutes nos glandes endocrines, qui déterminent les phénomènes d'ossification et de calcification, le corps thyroide, le thymus, de même que les glandes génitales jouent un rôle dans le métabolisme du calcium, mais la plus importante, à ce point de vue, est la glande parathyroïde, dont la disparition entraîne toujours une décalcification intense et rapide, même quand il y a abondance de calcium dans tout le système.

Il importe beaucoup de savoir ce rôle des glandes dans l'ossification et, particulièrement dans l'hygiène dentaire. Les besoins de l'organisme en calcium sont considérables, particulièrement chez les femmes durant la période de grossesse et de lactation, et chez les enfants, durant toute la croissance. Où l'organisme prendra-t-il le calcium, sinon dans la nourriture? Si cet élément n'est pas suffisant dans l'alimentation, non seulement l'ossification se fera mal, mais le corps, par un mécanisme admirable ira le chercher dans les réserves, c'est-à-dire les os, les dents, pour équilibrer les besoins de tous ses organes. De là une décalcification regrettable qui est une des causes de la carie. Celle-ci est non seulement l'indice de troubles locaux, mais aussi de lacunes dans le fonctionnement des glandes endocrines, de l'insuffisance de calcium et, en définitive, d'un défaut de nutrition.

Ni l'hygiène extérieure, ni la désinfection fréquente, ni les soins dentaires les plus minutieux ne peuvent lutter efficacement pour préserver de la carie les dents décalcifiées; tandis que, la dent bien évoluée, bien calcifiée, chez une personne maintenue en santé par un régime alimentaire parfaitement équilibré, résistera aux bactéries. En sorte que la nutrition appropriée est le meilleur préservatif contre la carie des dents.

Les aliments agissent sur le système en nous apportant les matériaux nécessaires à nous développer, nous conserver ou nous refaire. Il faut donc tenir compte des divers éléments qui entrent dans la nourriture.

Les aliments rendent notre système acide ou alcalin, la carie se produit plutôt dans les cas d'acidité intense, tandis que la pyorrhée, ou maladie des tissus environnants, se trouve dans les systèmes trop alcalins.

Suivant les réactions des individus, le régime alimentaire doit être composé de façon à maintenir la juste proportion de l'acidité. Le lait et ses produits, les fruits frais et les légumes alcalinisent le système. Les viandes, les céréales, les oeufs, le poisson, les hydrocarbonés (sucre et amidon) produisent de l'acidité.

Outre leur propriété de former ou renouveler les tissus, de produire de la chaleur, de fournir des sels minéraux, les aliments exercent sur l'organisme une autre activité intéressante et essentielle. Cette activité provient des vitamines et est nécessaire au maintien de notre santé.

Il y a plusieurs sortes de vitamines. L'une favorise la croissance et augmente la résistance aux maladies; c'est la vitamine A. Quand celle-ci manque, son absence ou son insuffisance se manifeste par des symptômes graves de la vue, l'arrêt de la croissance, la susceptibilité aux affections des voies respiratoires et de la vessie;

d'autres tissus subissent des altérations dans leur structure ou leur fonction. Dans les tissus alvéolaires, par exemple, le manque de cette vitamine est un des facteurs de la pyorrhée. La vitamine A se trouve surtout dans le lait frais, le beurre, le foie, les huiles de foie de morue, les oeufs, les légumes à feuilles vertes.

Il est à noter que la partie musculaire de la viande, celle dont on fait la plus forte consommation, ne contient que très peu de vitamines A. Par contre, les organes glanduleux de l'animal, tels que le foie, le coeur, le rein, en sont riches.

La vitamine B, comme la précédente, est nécessaire à la croissance et à la santé. C'est celle du système nerveux, de l'appétit, de la digestion. Le manque de cette vitamine cause la paralysie appelée béri-béri chez l'homme, maladie bien connue en Orient où le riz est la nourriture commune. De même que nous aimons mieux le pain blanc, les populations orientales préfèrent le riz blanc. Or le béri-béri disparaît quand on ajoute à la diète l'écorce du riz, qui contient la vitamine B.

Le rein, le foie, la levure, le lait, les betteraves, les haricots, les pois, les tomates, le blé entier contiennent des vitamines B.

La vitamine C prévient le scorbut. Elle agit contre le rhumatisme. Elle a son importance dans l'ossification. Elle aide la vascularisation, elle est nécessaire à la formation des tissus intercellulaires. Au point de vue dentaire, j'oserais dire qu'elle est essentielle. C'est grâce à elle que le sang va dans les tissus capillaires pour nourrir les cellules. Les symptômes du scorbut se manifestent dans la pulpe dentaire bien avant les symptômes extérieurs. Les torts causés à la pulpe dentaire persistent alors que tous les autres symptômes de scorbut sont disparus par un régime antiscorbutisque.

La vitamine D est nécessaire à la formation et au maintien d'un bon système osseux. Elle est particulièrement importante pour le soin prénatal, pour les nourrissons et les enfants. Elle prévient le rachitisme. Les rayons ultra-violets du soleil dardés directement sur la peau en développent. On en trouve un peu dans le jaune d'oeuf, le beurre, le saumon et divers produits de la mer, surtout dans l'huile de foie de morue, de flétan et de thon. L'ergostérole, irradié sous divers noms, tels que viostérol, ostogène, etc., est très riche en vitamine D et agit rapidement.

En général, nous ne mangeons pas assez de fruits et de légumes. Nous recherchons beaucoup les muscles de la viande et nous dédaignons souvent les organes glanduleux, qui contiennent le plus d'éléments essentiels à notre santé.

Quant aux céréales, pour ne parler que du blé, qui est d'usage quotidien, il y a infiniment plus de phosphore, de calcium, de fer, de vitamine B, dans la farine de blé entier que dans la farine blanche.

Sherman, une autorité en la matière, a dressé le tableau comparatif suivant:

| | Farine blanche | Farine de ble entier |
|---|---|---|
| Calcium | 20 | 39 (*Insuffisant*) |
| Fer | 10 | 37 (*Normal*) |
| Phosphore | 92 | 364 (*Normal*) |
| Vitamine A | 0 | (*Insuffisante*) |
| Vitamine B | (*Insuffisante*) | (*Normale*) |

Ici Sherman ne fait pas encore mention de la valeur du germe de blé, la meilleure source de la vitamine E, vitamine qui non seulement a de l'influence sur la reproduction mais sur l'évolution de la gestation et de l'allaitement.

Le pain est un grand facteur dans l'alimentation. Enlevez au blé ses principales qualités par le blutage pour en faire la farine blanche, il ne reste que l'amidon qui tourne en sucre et ses principales qualités minérales sont réduites infiniment; de plus, ses principales activités des vitamines A, B, et E sont anéanties. C'est par l'usage d'aliments trop raffinés comme le pain, et par la cuisson avancée de trop d'aliments dans lesquels les activités sont détruites par stérilization que nous provoquons la

décalcification. Chez les peuples sauvages où des aliments naturels constituent la diète, on ne rencontre pas de décalcification, de carie dentaire. Les naissances sont heureuses; il y a peu de maladie. Cependant, dès que ces populations commencent à se nourrir comme les blancs, elles sont la proie de tous nos maux sans avoir notre immunité et, finalement, la tuberculose les décime.

C'est à peu près ce que nous trouvons dans les expériences chez le cobaye et le singe, qui, comme l'homme, subissent les lois générales des vitamines. Le cobaye, soumis à un régime décalcifiant et scorbutique, présente des symptômes généraux de scorbut à la quinzième journée, meurt la dix-septième ou dix-huitième journée. Mais, ici, nous remarquons que les sujets de ce régime, abattus à la onzième journée, montrent les symptômes de scorbut dans la pulpe dentaire et chez la femelle enceinte et le foetus, les signes évidents de scorbut dans la pulpe dentaire se manifestent deux jours plus tôt, c'est-à-dire à la neuvième journée. Chez le singe, le temps des manifestations du scorbut est plus long mais, ce qui est remarquable, si un sujet vit un peu plus longtemps que ses compagnons d'épreuve, il finit pas mourir de pneumonie.

Le Dr. Sherman L Davis, qu'un bureau de recherches de Washington indique comme le plus à point dans la matière, nous dit qu'il faut pour une bonne ossature des vitamines C et D, du calcium et du phosphore. Il se résume en donnant une diète récalcifiante comme suit:

"Premièrement, une quantité nécessaire de vitamine C, ce qui représente huit à seize onces de jus d'oranges par jour, ou son équivalent;

Deuxièmement, la quantité nécessaire de calcium et de phosphore, à peu près vingt-cinq grains de calcium et trente-cinq grains de phosphore;

Troisièmement, des vitamines D, deux cuillérées à thé de la meilleure huile de foie de morue;"

Diète pour arrêter la carie dentaire et guérir rapidement les fractures osseuses.

Une à deux cuillérées à thé d'huile de foie de morue (dix à vingt minutes avant le repas) ; Ensuite:

(a) Pain de blé entier;
(b) Céréale de blé ou de son entier;
(c) Le jus de deux oranges par jour; autres fruits crus;
(d) Pas de bonbons;
(e) Très peu de pâtisseries;
(f) Environ cinq onces de viande par jour;
(g) Une fois par jour des pommes de terre;
(h) Une abondante quantité de salade de légumes crus au moins une fois par jour;
(i) Quantité d'une chopine à une pinte de lait par jour.

On peut choisir n'importe quel légume ou mélange de légumes appétissants. Les plus nutritifs sont les carottes, les épinards, les tomates et le céleri.

La responsabilité des autorités en agriculture, en ce qui concerne notre décalcification, semble être mieux comprise.

Il est impossible de ne pas sentir l'effet de céréales et de légumes qui nous viennent de terres épuisées. La chair même des animaux qui ont végété sur des terres décalcifiées doit avoir une influence.

Il est heureux qu'une agriculture plus scientifique se développe. Il est intéressant de voir, aujourd'hui, grâce à la zootechnie, comment des troupeaux sont améliorés et régénérés par le simple effet de rations proportionnés.

Quel résultat n'aurait-on pas en général sur notre population si nous donnions à l'organisme tout ce qu'il demande dans l'alimentation. Les rations proportionnées, qui ont tant amélioré les troupeaux de la province de Québec, ne pourraient-elles pas

être composées et adaptées aux besoins de l'organisme humain? N'est-il pas illogique qu'on procure aux animaux une alimentation scientifique et que l'homme soit privé d'un tel bienfait.

Il est impérieux que la mère comprenne toute l'importance d'une bonne diète, pour sa santé et celle de son enfant. La condition des dents de l'enfant depend des habitudes et du mode de vie de la mère.

La première série de dents commence à se former à la septième semaine de la vie foetale. La première dent permanente qui fait son éruption à l'âge de six ans commence à la dix-septième semaine de la même période.

L'amélioration des dents de la génération à venir depend des mères. Qu'elles se souviennent que l'hérédité et les soins pendant la gestation et la lactation ont une immense répercution. La période de croissance avant la naissance, et celle qui suit immédiatement la naissance, sont les plus importantes de la vie humaine. C'est à ce moment là que l'organisme exige le plus impérieusement les éléments voulus pour la formation des os et des dents. Or, ni dents ni os ne peuvent être formés sans calcium et phosphore. La mère ne peut donner ce qu'elle n'a pas. Les aliments naturels tels que le lait entier, le lait de beurre, les légumes verts de toute sorte, les fruits frais doivent être en abondance; les figues et le fromage sont aussi une source appréciable de calcium et de phosphore.

En conseillant le choix de ces aliments, je dois ajouter que, pour rendre ceux-ci profitables, il est nécessaire de s'occuper de cette partie de la digestion qui est sous le contrôle de la volonté et de l'intelligence; la digestion de la bouche. Sans celle-ci, la nourriture ne sera pas préparée pour les autres fonctions digestives qui, elles, sont indépendantes de la volonté et qui, alors, rempliraient difficilement leur rôle. La valeur nutritive des aliments y perdrait beaucoup, au grand détriment de la santé générale.

La digestion de la bouche est à la fois mécanique et chimique. Par la mastication, les aliments sont fractionnés. Plus ils sont subdivisés, plus étendues sont les surfaces exposées à l'action du suc digestif. Si le fractionnement est insuffisant, les glandes de l'estomac sécrètent, par réflexe, de l'acide chloridrique. Il en résulte des sensations irritantes.

La première action chimique de la digestion se fait dans la bouche. Sous l'effet de la mastication, les glandes salivaires sécrètent un suc qui, mêlé à la nourriture dans le bol alimentaire, change les amidons en sucre et prépare les aliments aux autres fonctions du tube digestif. Par le fait, l'organisme profite mieux des substances nutritives. De plus, les sécrétions salivaires, étant alcalines, contribuent à neutraliser l'excès d'acidité.

Pour résumer: sans bonnes dents il ne saurait y avoir bonne mastication et sans mastication comment avoir une bonne digestion? Sans bonne digestion, pas de bonne assimilation, pas de bonne nutrition par conséquent, et celle-ci manquant, la santé manque aussi, et sans la santé, que peut être la vie?

La santé est, en effet, le bien suprême bien plus appréciable que toutes les richesses; elle est la joie de vivre.

C'est grâce à la santé que nous pouvons travailler, acquérir, connaître et que nous pouvons aussi profiter des bienfaits du travail, des connaissances et des richesses acquises. Si nous voulons donner le plein rendement de nos forces physiques et intellectuelles, exercer toutes nos facultés en les perfectionnant, éviter les influences démoralisantes de la douleur, si nous voulons laisser le plus précieux des héritages à la génération qui suit, il faut avoir assez de courage et de logique pour prendre les moyens nécessaires au maintien de la santé.

Chez l'animal, la nature et l'instinct sont les régulateurs des fonctions végétatives et sensitives. L'homme n'a pas l'instinct au même dégré. Il a l'intelligence. C'est

par elle qu'il lui faut apprendre, même à se nourrir, comme il apprend à lire et à écrire.

L'étude de l'alimentation devrait être à la base de toute éducation et de toute hygiène sociale. Celle-ci contribuera incontestablement à l'amélioration non seulement physique, mais intellectuelle et morale du peuple. Elle donnera de la force et de l'équilibre aux facultés; elle donnera au coeur de la joie; à la volonté, l'optimisme sain qui porte à l'action féconde.

Telles sont les conditions essentielles et fondamentales de la Sécurité de chacun, parce que ces lois de l'hygiène concernent les sources mêmes de la Vie.

1 RUE ST JEAN, QUEBEC.

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# *l'Orthodontie* *(suite)*

**par PAUL GEOFFRION, B.A., D.D.S., A.I.D.O. (R.A.)**

*Membre de l'Académie Internationale d'Orthodontie; Professeur Titulaire d'Orthodontie de l'Université de Montréal.*

Maintenant que nous avons donné une vue d'ensemble de la méthode de l'INDICE DE PONT pour la recherche de la CONTRACTION et de la DISTRACTION, la SYMETRIE ou l'ASYMETRIE des arcades et que nous savons par ailleurs que cette CONTRACTION ou cette DISTRACTION tout en étant SYMETRIQUE ou ASYMETRIQUE peut aussi être BILATARALE, MOYENNE, LEGERE, EXAGEREE, ANTERIEURE, TOTALE, SUPERIEURE ou INFERIEURE faisons l'application de ces données à trois cas de la pratique courante que nous désignerons par les chiffres 1-2-3-.

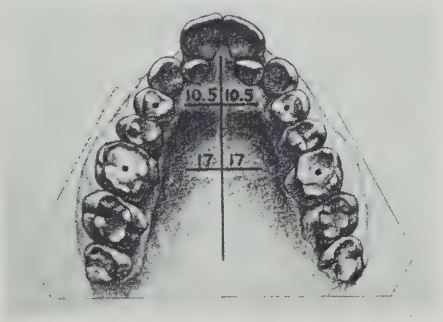


Figure 22
*Contraction, supérieure, bilatérale, symétrique, totale et exagérée.*

Le cas No. I (Figure 22) représente un moulage du maxillaire supérieur sur lequel nous avons tracé la ligne du RAPHE MADIAN, ligne partant du centre de la première prémolaire gauche et s'arrêtant au centre de la première prémolaire droite; et la ligne partant du centre de la première molaire gauche et s'arrêtant au centre de la première molaire droite.

Ceci posé, nous mesurons au compas (Bowley Gage) les diamètres mésio-distaux des quatre incisives qui représentent une valeur de 28 millimètres.

Connaissant maintenant le diamètre total des incisives qui est de 28 millimètres, nous nous rapportons immédiatement à la colonne I du barême de l'INDICE DE PONT qui représente la valeur correspondante c'est-à-dire 28 m.m.

Partant de cette colonne I, nous nous dirigeons vers la colonne II qui nous indique que la distance normale entre le centre des premières prémolaires doit être de 35 m.m.

L'indice normal des prémolaires obtenu, nous recherchons maintenant dans

la colonne III, l'indice normal ou la distance normale qui doit exister entre le centre des premières molaires et qui est, dans le cas qui nous occupe, de 43.7 m.m.

Donc jusqu'ici nous avons établi au moyen du barême de l'INDICE DE PONT, qu'avec un diamètre total de 28 m.m. qui représente celui des quatre incisives, la distance totale entre le centre des premières prémolaires doit être de 35 m.m. et que celle du centre des premières molaires doit être de 43.7 m.m. et pour mémoire nous inscrivons:

a) Le diamètre total des 21 12 étant de 28 m.m.

b) La distance entre le centre des 4 4 doit être de 35 m.m.

c) La distance entre le centre des 6 6 doit être de 43.7 m.m.

Revenant maintenant au moulage du cas no. I dont nous voulons connaître le degré de CONTRACTION ou de DISTRACTION, nous en mesurons la distance entre le centre des premières prémolaires et celle des premières molaires. Ces mensurations qui sont de 34 m.m. entre les molaires, c'est-à-dire de 10.7 m.m. de moins que l'INDICE DE PONT et de 21 m.m. entre les premières prémolaires c'est-à-dire de 14 m.m. en moins, nous indiquent donc clairement que l'arcade est en CONTRACTION puisque le BAREME DE PONT que nous venons de consulter il y a un moment nous donne encore une fois comme normale une distance de 35 m.m. entre le centre des premières prémolaires et de 43.7 m.m. entre le centre des premières molaires.

Jusqu'ici nous savons donc de source certaine que le moulage de la (Figure 22) est en CONTRACTION. Mais ces données ne sont pas suffisantes, car comme nous l'avons vu dans le Tableau des Anomalies de développement des arcades, la CONTRACTION le plus souvent SYMETRIQUE peut aussi quelques fois être asymétrique. C'est ce degré de SYMETRIE et d'ASYMETRIE que nous allons essayer de diagnostiquer dans les lignes qui vont suivre.

Continuant donc notre étude sur ce même moulage, nous mesurons la distance qui existe entre le centre de la première prémolaire gauche et la ligne tracée au RAPHE MEDIAN. cette distance nous donne 10.5 m.m. Nous mesurons ensuite la distance qui existe entre la première prémolaire droite et la ligne tracée au RAPHE MEDIAN et nous retrouvons exactement la même mesure; soit .0.5 m.m. ce qui nous indique donc que la CONTRACTION est du même degré des deux côtés de l'arcade c'est-à-dire qu'elle est SYMETRIQUE dans la région des prémolaires.

Reprenant le même travail pour les molaires nous voyons après mensuration que la distance entre ces molaires et la ligne du RAPHE MEDIAN est exactement la même des deux côtés de l'arcade, soit de 17 m.m. ce qui nous indique encore que la CONTRACTION est SYMETRIQUE dans la région des molaires.

Si nous résumons maintenant ce que nous venons de voir, nous disons donc que dans le cas no. I représenté par le moulage de la (Figure 22) nous avons une anomalie de développement de l'arcade par CONTRACTION; que cette CONTRACTION est SYMETRI-

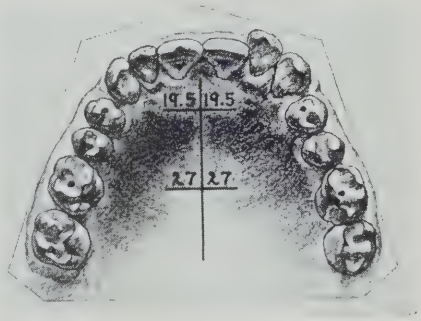


**Figure 23**
*Distraction, symétrique, supérieure, bilatérale, moyenne et totale.*

QUE puisqu'à partir de la ligne du RAPHE MEDIAN, le degré de contraction est le même du côté droit et du côté gauche; qu'elle est SUPERIEURE puisqu'il s'agit ici du maxillaire; qu'elle est BILATERALE puisque la CONTRACTION existe des deux côtés à la fois; qu'elle est enfin exagérée puis qu'elle dépasse 10 m.m.

Le cas no. II (Figure 23) représente un moulage du maxillaire supérieur sur lequel on a tracé la ligne médiane ou du RAPHE MEDIAN; la ligne partant du centre de la première prémolaire gauche au centre de la première prémolaire droite et la ligne partant du centre de la première molaire droite au centre de la première molaire gauche.

Connaissant le diamètre total des quatre incisives qui est de 29 millimètres, nous nous rapportons à la colonne I du barême de l'INDICE DE PONT qui représente la valeur correspondante c'est-à-dire 29 m.m. Partant de cette colonne I, nous nous dirigeons vers la colonne II et III qui nous indique que la distance normale entre le centre des 4 4 doit être de 36 m.m. et que la distance entre le centre des 6 6 doit être de 45 m.m. et pour mémoire nous inscrivons.

a) Le diamètre total de 21 12 étant de 29 m.m.

b) La distance entre le centre des 4 4 doit être de 36 m.m.

c) La distance entre le centre des 6 6 doit être de 45 m.m.

Or après mensurations prises sur notre moulage la distance entre le centre des 4 4 est de 39 m.m. et la distance entre le centre des 6 6 est de 54 m.m. c'est-à-dire de 4 millimètres de plus que l'INDICE NORMAL dans la région des premières prémolaires et de 9 millimètres en plus dans la région des molaires, ce qui nous indique donc clairement que nous avons ici une anomalie de développement du maxillaire par DISTRACTION.

Cette DISTRACTION est SYMETRIQUE parce qu'à partir de la ligne médiane ou du RAPHE MEDIAN aux centres des prémolaires et molaires la distance est la même des deux côtés c'est-à-dire de 19.5 m.m. et 27 m.m.

Elle est SUPERIEURE parce qu'elle existe sur le maxillaire; TOTALE parce qu'elle englobe toute l'arcade; MOYENNE parce qu'elle ne dépasse par 10 m.m. BILATERALE parce qu'elle existe des deux côtés de l'arcade:

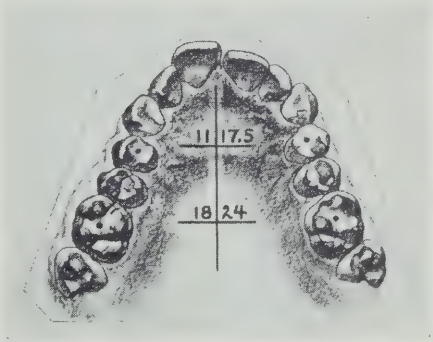


Figure 24
*Contraction, asymétrique, bilatérale, moyenne, totale et supérieure.*

Le cas no. III (Figure 24) représente un moulage du maxillaire sur lequel on a tracé les mêmes lignes que celles des cas I et III.

Le diamètre total des quatre incisives étant de 29 m.m.

La distance entre le centre des 4 4 doit être de 36 m.m.

La distance entre le centre des 6 6 doit être de 45 m.m.

Or après mensurations prises sur le moulage no. III la distance entre le centre des 4 4 est 28.5 m.m. et la distance entre le centre des 6 6 est de 42 m.m. c'est-à-dire de 7.5 m.m. en moins que l'INDICE NORMAL dans la région des premières prémolaires et de 3 m.m. de moins dans la région des premières molaires, ce qui nous indique immédiatement que l'arcade est en CONTRACTION. La CON-

TRACTION est ASYMETRIQUE, parce que la distance qui existe entre le centre de la première prémolaire gauche et la ligne médiane n'est pas la même que celle qui existe entre le centre de la première prémolaire droite et la ligne médiane. Elle est de 11 m.m. à gauche et de 17.5 m.m. à droite.

Il en est de même des premières molaires dont les distances de la ligne médiane aux centres de ces mêmes molaires sont de 18 m.m. du côté gauche et de 24 m.m. du côté droit.

Cette CONTRACTION ASYMETRIQUE et SUPERIEURE est aussi TOTALE puisqu'elle englobe tout le maxillaire elle est MOYENNE puisqu'elle ne dépasse pas 10 m.m. et enfin BILATERALE parce qu'elle frappe les deux côtés du maxillaire.

En terminant cette étude sur les anomalies transversales des maxillaires et la manière de les analyser, disons que la méthode que nous venons de donner ici et qui cherche à déterminer la largeur ou le degré de développement d'une arcade par la dimension des dents, ne peut pas toujours expliquer les variations nombreuses que nous pourrons constater, pas plus qu'elle peut être considérée dans beaucoup de cas comme une méthode de contrôle probante, parce qu'en somme comme l'écrit KARL GREVE "Le lien entre la somme des diamètres des incisives et la largeur de l'arcade ne semble pas suffisamment étroit pour qu'on puisse établir d'après les seuls chiffres d'un INDICE, le degré d'une CONTRACTION ou d'une DISTRACTION lorsqu'elle ne peut être controlée avec certitude par l'observation clinique."

Cependant cette méthode de l'INDICE DE PONT bien qu'ARBITRAIRE ET REMPLIE DE DEFAUTS DONNE SOUVENT DES RESULTATS PRESQUE TOUJOURS CONFIRMES par ce "juge impartial" la CLINIQUE.

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# *Questions et Réponses*

**DR. CONRAD ARCHAMBAULT**

Q.—Est-il quelques fois permis de laisser l'apex d'une racine dans les maxillaires?

R.—Dans une extraction, il est illogique de laisser l'apex d'une racine dans les maxillaires et nous sommes même responsables des conséquences, surtout avec les moyens à notre disposition dans l'art dentaire moderne, tels que instrumentation, radiographies, etc. Il peut en résulter des abcès, des kystes. On ne doit donc pas laisser de ces débris.

DANS L'ASSISTANCE:—

Q.—Si ce n'est qu'un petit bout d'apex?

R.—Même ça. Je maintiens qu'il ne faut pas le laisser. Je peux me tromper. Mais j'ai vu des radiographies montrant, après dix ans, des kystes au centre desquels se trouvaient un ou des apex qui ont fait des infirmes de ces patients. Nous ne sommes jamais justifiables d'en laisser, à moins que nous suivions le patient périodiquement. Si nous prenons sur nous d'enlever une ou plusieurs dents, il faut les enlever complètement.

INTERROGE PAR DR. VINET:—

Q.—Si, pendant l'extraction d'une molaire du haut, je pousse une racine accidentellement, dans le sinus, de quelle manière procéder?

R.—Je n'effraierais pas le patient, mais je prendrais une radiographie tout de suite ou bien j'ouvrirais immédiatement le sinus, j'enlèverais l'apex avec des précelles ou un instrument approprié et je refermerais hermétiquement. Il ne faut pas que le patient se ferme ou se lave la bouche pendant l'opération. Il m'est déjà arrivé une aventure semblable et le patient s'est vite rétabli. J'ai pris une radiographie pour localiser la racine que j'ai enlevée immédiatement en ouvrant le sinus.

INTERROGE PAR DR. DEMONTIGNY:—

Q.—Si la racine est près du sinus ouvert, ne vaut-il pas mieux la laisser en place?

R.—Si la racine est très près du sinus et qu'il y ait une petite cloison qui la retient, l'empêche d'y monter, je laisserais guérir. C'est un moyen, s'il ne semble pas y avoir d'infection. Il faut suivre le patient, radiographier et l'enlever quelques jours après. Pour éviter un plus grand mal, il est permis de laisser une racine, surveiller le cas de près et enlever plus tard. Je ne parle pas ex-cathedra, mais comme un praticien de pratique générale.

**DR. MARTIAL DURAND**

Q.—De quelle manière recevez-vous un nouveau patient (adulte)?

R.—Ma garde-malade prend le nom et l'adresse du nouveau client et le nom de celui qui lui a recommandé mon cabinet dentaire. Cette fiche m'est remise immédiatement afin que je sache avant de voir le client dans quel quartier il habite, et à quelle catégorie d'individus il appartient, d'après celui qui me l'a recommandé.

Cependant, n'allez pas croire que l'enquête est difficile et occasionne une perte de temps. Au contraire, les premières paroles d'un nouveau patient seront pour vous annoncer qu'il vient de la part de Madame ou de Monsieur Un Tel. Ces formalités, d'ailleurs, peuvent s'accomplir pendant la sortie du client qui laisse mon cabinet.

J'ai pour principe de ne pas faire attendre un client, surtout s'il est nouveau. Mais, d'autre part, je m'arrange pour qu'il se rende compte de visu qu'il n'est pas le seul client que je recevrai ou que j'ai reçu ce jour-là.

Ces derniers détails semblent insignifiants, mais ils ont leur grande importance et aujourd'hui, tout comme au temps de Rabelais, il y a des moutons de Panurge.

La garde-malade a prié le patient de s'asseoir sur la chaise dentaire. Je me rends alors en face de ce dernier, assez souvent pour lui serrer la main, et pour lui dire quelques mots, mais surtout j'insiste sur le fait que je connais depuis des années, quand ça existe, celui qui l'a dirigé chez moi, afin de gagner la confiance de ce nouveau patient. Si ce patient avait une confiance illimitée dans son ancien dentiste, il ne serait pas chez-moi, à peu d'exceptions près.

Après m'être lavé les mains, j'aborde le côté dentisterie et je laisse le patient me dire ce qu'il veut et je fais seulement ou à peu près le travail suggéré pour ne pas paraître trop empressé et trop intéressé à un travail dentaire très considérable, surtout s'il n'est pas urgent.

Je fais revenir ce patient dans un ou deux mois après lui avoir dit que ma secrétaire l'appellerait pour lui donner rendez-vous et si le patient vient chez-moi lorsqu'il est rappelé, je suis à peu près certain d'avoir produit sur lui l'impression désirée et alors je pourrai faire des suggestions et le diriger à ma guise.

Je dois ajouter que lors d'une première visite, je fais peu de travail et que je me tiens durant toutes les opérations en face du nouveau client pour lui permettre de bien m'examiner et de se familiariser avec ma stature, mon maintien, ma figure, etc. Si le patient recommandé a déjà eu certaines restaurations dentaires, je ne parlerai pas d'honoraires professionnels; d'un autre côté, si le patient n'est

pas recommandé, je lui dirai avant de faire aucune intervention ce que ça coûtera.

Q.—De quelle manière vous y prenez-vous pour traiter les patients qui vous tombent sur les nerfs?

R.—Messieurs, je fais comme vous tous, je les endure, mais d'un autre côté je m'arrange de façon à recevoir ces patients quand je ne suis pas trop occupé et je fais tout ce qui est humainement possible du côté traitement, sous anesthésie générale. D'autre part, sans croire manquer à la charité chrétienne, je chercherai à diriger ce patient chez un de mes confrères qui fait une spécialité de la guérison du malaise dont souffre ce patient.

Q.—Jusqu'à quel point le dentiste doit-il se rendre responsable des restaurations qu'il a pratiquées dans la bouche de ses patients à l'exclusion du point de vue légal?

R.—Tout dépend du patient, c'est lui qui dans des conditions normales de santé va vous aider à se faire imposer une bonne ou une mauvaise restauration dentaire. Je m'explique: 1o. si le patient en santé est docile, c'est-à-dire s'il subit facilement toute la série de vos opérations dentaires et s'il vous donne les honoraires justes que vous demandez, vous êtes dans des conditions favorables pour faire un bon travail et en conscience responsable de ce que vous lui donnez et cela pour un temps plutôt long. 2o. Par contre, si le patient d'une santé plutôt débile est en plus récalcitrant et résistant à vos opérations, tant pis pour lui si les travaux dentaires n'arrivent pas à durer. Votre responsabilité est dégagée lorsque vous avez fait tout ce que vous pouviez: la patience humaine étant limitée, même chez le dentiste.

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## *Histoire sans paroles (Lange)*

3ième scène

To The King's Most Excellent Majesty,
Most Gracious Sovereign.

❖ **We,** your Majesty's loyal subjects, members of the Canadian Dental Association, beg leave to extend to you and your Gracious Consort, Queen Elizabeth, a most heart-felt expression of good wishes for your well-being and enjoyment during your visit to Canada.

❖ **The** officers and members of the Canadian Dental Association have a full appreciation of their responsibilities in protecting the health of your Majesty's loyal Canadian subjects.

❖ **We** are ever anxious to join with other dental associations of the British Commonwealth to advance our scientific knowledge and to promote a closer fraternal relationship with our professional brothers within the British Empire.

❖ **It** is our hope that your Majesty may enjoy a long and successful reign as our Most Gracious Sovereign and that you may always be encouraged by the fealty and affection of your subjects both in Canada and in the Dominions beyond the seas.

❖ **To** your Most Excellent Majesty, we pledge our loyalty and devotion at all times.

STEPHEN A. MOORE, *President*
THE CANADIAN DENTAL ASSOCIATION
L'ASSOCIATION DENTAIRE CANADIENNE

JOHN S. LAPP, *Chairman*
Public Relations Committee

J. STANLEY BAGNALL,
*Secretary-Treasurer*

His Most Excellent Majesty Albert Frederick Arthur George of Windsor, bearing the title "George the Sixth, by the Grace of God, of Great Britain, Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India." Sovereign of the British Orders of Knighthood, Admiral of the Fleet, a Field-Marshal in the Army, Marshal of the Royal Air Force, Col.-in-Chief of the Life Guards, Royal Horse Guards, Royal Regiment of Artillery, the Corps of Royal Engineers, the Five Regiments of Foot Guards, the Royal Marines, Capt.-Gen. Hon. Artillery Co.; and Her Majesty Queen Elizabeth, Lady of the Garter, Dame Grand Cross of the Order of the British Empire, Col.-in-Chief K.O.Y.L.I., and Hon. Col. 14th London Regiment (London Scottish), T.A., D.C.L., LL.D.

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# Public Dental Service in Sweden *

by AXEL KJELLBERG, Stockholm, Sweden.

THE provision of a public dental service in Sweden was proposed to the Authorities as early as 1904, when a private Bill was submitted to the Second Chamber of the Riksdag. Time was not yet ripe for any Government measures of this nature, however, and the Bill was rejected.

In January, 1912, the Association of Swedish Dentists, and the Swedish National Association for the Promotion of Oral Hygiene, jointly petitioned the Government for the establishment of a national dental service. The question of Government measures to promote national dental service was consequently discussed in the Riksdag in 1913, with the result that a plan for the organization of dental treatment for school children was prepared, and submitted in 1917. However, this plan never advanced beyond the proposal stage.

The whole question was then left in abeyance until 1924, when the Riksdag requested the Government to appoint a Committee to report on how dental treatment, at reasonable cost, could best and most suitably be made available for the people of Sweden.

The Committee appointed by the Government submitted its "Report on the Organization of a National Dental Service" on April 30, 1928. Although the interest in the solution of this problem was now much greater than in 1917, the plan was not yet realized. A new report having been rendered in 1935, this was revised by specially called in experts, who on December 15, 1937, were able to submit a program, improved in many respects. The protracted but necessary preliminary work being thereby completed, the scheme was embodied by the Government in a Bill laid before the 1938 Riksdag and unanimously passed by both Chambers on May 25, 1938, to come into force on January 1, 1939.

The National Dental Service in Sweden is based on the following fundamental principles:

Dental treatment in a medical sense must be considered not only from the functional, but also from the prophylactic point of view. From the functional point of view, the teeth must be capable of masticating the food properly, and so prepare it for the subsequent digestive processes. To children of 3-12 years, the deciduous teeth are in this respect as important as the permanent teeth are to children from the age of 6 upwards. An unbroken denture is a *sine qua non* for perfect functioning. Caries, as well as anomalous jaws and malposed teeth, will reduce the efficacy of the masticatory mechanism, and will diminish the ability

* Written for the Journal of the Canadian Dental Association, by Dr. Axel Kjellberg, upon the request of Dr. J. N. Sandblom, Surgeon Dentist to the King of Sweden.

of the individual to break up the food and prepare it for the digestive processes. Secondarily, imperfect mastication may give rise to diseased conditions in the alimentary canal and reduce the ability of the organism to absorb the nourishment. Caries of the teeth is also considered a direct danger to the health of the individual, as a resulting bacterial infection will make him supersensitive and more susceptible to certain diseases.

The object of the national dental service in Sweden is to give both children and adults a chance to maintain and promote, at reasonable cost, efficient mastication, and to keep their teeth and mouths in a healthy condition, thus preventing them from becoming septic foci infecting other parts of the organism. People with no or very limited means will receive dental service without cost to themselves. The dental service will include complete preservative treatment of the teeth, and the provision of prostheses when such are required for proper mastication.

The principle underlying the officially organized dental service is that it must be open to every citizen, but as dental treatment is most urgently needed by children, the national dental service will primarily be organized with that particular purpose in view.

As, however, the need of facilities for dental treatment for adults is also great, such facilities should, as far as possible, be provided in conjunction with the dental service for children.

The latter, by which both deciduous and permanent teeth will be put, and maintained, in perfect order, will be open to all children, and be largely paid for out of public funds. All children will be included in the scheme from the end of the calendar year after that in which they reach the age of 3, up to and including that in which they complete their 15th year.

The aim of the scheme is thus that every child of 15 in Sweden—wherever educated—shall have perfectly sound teeth. The dental treatment of children of school age is not compulsory, however, but it is estimated that at least 30% of the children from 3 to 6 years of age, and at least 90% of those of school age, will voluntarily avail themselves of their right to treatment.

The Dental Service for Adults will be established in direct conjunction with the school service. A low scale of charges will be fixed by the Medical Board. No differentiation of patients according to their means has been considered advisable, or even feasible. Nor would it be justified in view of the effect that adult patients will themselves, as a rule, pay for the treatment received. A 25% reduction on the adult fees will be allowed all young people from 16 to 19 years old, provided they submit to annual observation and treatment.

The National Dental Service will be organized in 3 main groups: District dental services, central dental polyclinics (attached to hospitals), and dental clinics at all institutions for the blind, deaf and dumb, imbeciles, epileptics and cripples, and in mental asylums.

The whole country will be divided into districts small enough for one dentist to look after them satisfactorily (district dental polyclinics. In densely built districts and large towns, however, polyclinics with one or two dentists may be established. These polyclinics will usually be stationary, but may also be ambulatory where circumstances are such that this is necessary.

The hospital dental polyclinics will be specially equipped for dealing with complicated cases, and will have a specially trained dentist in charge. They will receive patients sent for special treatment from the district polyclinics, in addition

to giving any dental treatment which for medical reasons may be required for the patients in the hospitals.

It is estimated that each dentist will be able to treat an average of 800 children a year (in 1000 hours). On that basis it is estimated that about 800 dentists will be required for the complete national organization.

The District dental surgeons must be duly qualified Swedish dentists. They receive either a fixed salary of 7.800 kr. ($1950) a year, or 7.200 kr. ($1800) plus 10% of the fees received for treatment of adults. These salaries are increased by three length-of-service increments of 500 kr. ($125) each, and include the right to a pension at the age of 65, or after 30 years of service. A district dental surgeon is not permitted to have any private practice. A daily working time of 7 hours is stipulated.

A dental nurse, who must also give the children instruction in oral hygiene, is engaged to assist each dentist. She will be on the permanent staff, and have a minimum salary of 2.000 kr. ($500) a year with 3 length-of-service increments of 100 kr. ($25) each. Her emoluments also include the right to a pension at the age of 60. A district dental nurse must have passed through a training course at the Dental Institute, or possess other qualifications approved by the Medical Board.

The parents or guardians of the children have to pay a fixed annual fee, irrespective of the amount of treatment received, of 5 kr. ($1.25) per annum for the eldest child, 3 kr. (.75 cents) for the second child, and 2 kr. (.50 cents) for the third. The fourth and following children in the same family are treated free of charge, The maximum fee payable for all the children of one family is thus 10 kr. ($2.50) a year. If the parents have no means, the local authorities will pay these fees.

The scale of charges fixed by the Medical Board for the treatment of *adults* is very low. By a resolution of the Riksdag, reduced fees will be charged people of small or no means for dental treatment. People of no means are treated free of charge, the Government and local authorities paying half each of their fees. People of small means receive a contribution from the local authority, which in its turn receives a Government grant. Such contribution to the cost of dental treatment is not regarded as Poor Law Relief.

The equipment of a permanent, single-dentist District Polyclinic is estimated to cost about 6.000 kr. ($1500) and of an ambulatory clinic about 2.000 kr. ($500) making the total cost for all the District Dental Polyclinics 4 mill. kr. ($1,00,-000) in round figures. Over and above this, however, there is the cost of furniture, etc., for the premises, estimated in the aggregate at 1.050.000 kr. ($262,-500). The cost of equipment for a Central Dental Polyclinic is estimated at 10.000 kr. ($2500). The working expenses of a permanent District Polyclinic are estimated at 17.000 kr. ($4250) per annum, and of a Central Polyclinic at 20.000 kr. ($5000).

This national dental service cannot, of course, be introduced everywhere all at once, but is expected to be in complete working order within 10 years.

The supervision and control of the National Dental Service will be in the hands of the Royal Medical Board.

It has thus fallen to the lot of Sweden to be the first country in the world to introduce a State-controlled, rationally planned dental service, available for the whole population. This highly desirable and badly needed reform has been greeted with great and general satisfaction, and is expected to be of considerable benefit to the health of this and future generations.

# *Economic Aspects of Dental Practice* *

by DAVID W. McLEAN, D.D.S., F.I.C.D., Los Angeles, California.

DURING the past month, about 1450 young men have stepped out of American dental colleges with diplomas under their arms, to join the ranks of practising dentists. They are about to undergo the great metamorphosis from dental student to dental practitioner.

Most of these newcomers, just as we before them, have gone from grade school to high school, from high school to college, and from college into practice, with little or no business training or experience. Now they must plan their own offices, usually with the aid of dental salesmen; they must receive patients at their own doors and conduct them through the whole gamut of dental treatment and its many side issues. It is small wonder that many dentists of proven ability never find the formula for financial success.

### Dentistry's Three Divisions

Dentistry is many sided; it has diversity enough to satisfy the most active and the most roving mind, but all of its activities break down into three main divisions, and no dentist can be fully qualified, or entirely successful, unless he has all three departments well in hand.

First, is the *science* of dentistry: George Wood Clapp calls it the "professional side of dentistry." It concerns the WHYS and the WHEREFORES, the aetiology, the diagnosis, the prognosis the prescription, medical or surgical, and the prevention of a given pathosis. Without this department, neither of the others could exist; yet it is sadly neglected on most dental programs. We are always so eager to learn HOW to do things; we are impatient of the man who takes our time telling us WHY to do them, which, after all, is foolish. The HOW changes with the years, but the WHY goes on forever: it is the man who knows WHY who can devise a new and better HOW.

The second great division of dentistry is the *mechanical; dental pharmacy* or, to again quote Clapp, "dental craftsmanship." Let us at once concede its importance. The physician learns a new fact with his head and writes a new prescription as easily as he used to write the old one. The dentist must first learn with his head, then learn to apply it with his fingers. Provided the dentist has his WHYS and WHEREFORES well in hand, this second department can take his day's work out of the red into black ink, by eliminating lost motion and time-consuming grief.

The third great division of dentistry is the business or economic division. It is an essential of every practice and no dentist need ever be ashamed of it, provided that he practises honestly, and he is far more apt to do that if he is an adept in practice management and financially successful.

Success in this third department of dental practice makes it possible to buy the best materials and equipment, to obtain new text books, to belong to dental societies and to take time off to attend meetings and take post-graduate courses; to take more time for recreation and vacation and to keep nerves and body fit. In short, good business management en-

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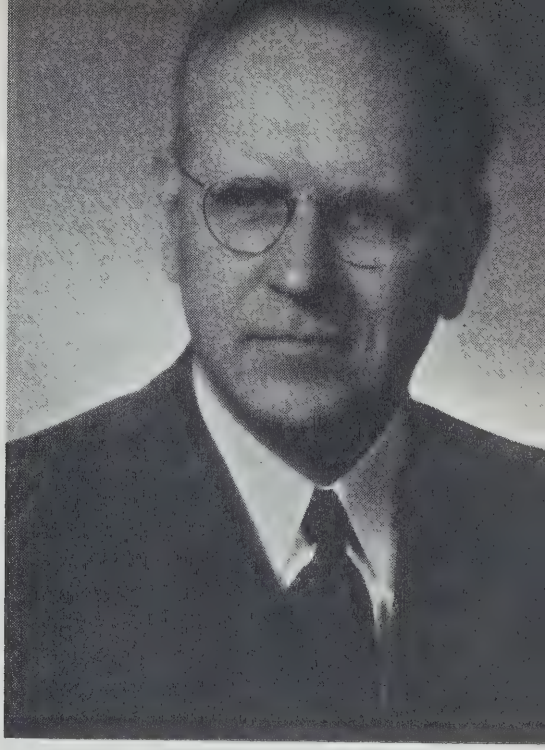
DAVID W. McLEAN



ables a man not only to live better, but to render better dental service to his patients.

### The Success Formula

Wherever you hear successful dentists talking together about the details of practice management, you are impressed with the fact that there is a rather definite formula for success. Slight individual variations occur of course, but the pattern remains startlingly similar when the east coast man compares notes with the west coast man, and the Canadian with the man from the Rio Grande.

The first requisite for success in the third division of dentistry is ability in the first two. There is no substitute for ability to render good dental service. High-powered salesmanship, a marvellous personality, a gorgeous office, may put an inferior dentist over for a short time; they may have put over a dentist who was good at one time, but who fell behind the procession because he stopped attending dental meetings and reading current dental literature. Eventually, inferior ability will bring a man down to his true level. *There is no substitute for the ability to render the best dental service.*

### Dealing in Personalities

Next to the dentist's technical knowledge and skill is his person and personality. Here we must be exceedingly frank. Whatever he may like to be when off hunting or playing, in practice he must be a refined, fastidious gentleman. He need not be a perfumed, curled, silk-shirted and effeminate dandy, but he should be freshly bathed, with fresh, clean linen, with finger-nails and complexion cared for and his nose clean, since that is part of the patient's view. It is not a bad policy for the dentist to have a box of small peppermint lozenges in the laboratory, and when in doubt about that new social disease, halitosis, to slip one into his mouth between patients.

The dentist's own teeth, gums and dentistry should proclaim his belief in

what he preaches to patients. A dentist with arch vacancies, crude dentistry and dental and periodontal disease is in the position of a bald barber selling hair restorer.

Hand washing should be the order of the day. If the dentist or his assistant steps away from the chair for any purpose, the hands are washed on returning to the patient; and the hand washing is, of course, done close enough to the chair so that the patient knows it is being done. It is well to wash the hands once or twice during an operation anyway, for if any saliva remains to dry on the dentist's fingers it is apt to become offensive to the patient.

Since an outstanding requirement of the dental office is scrupulous cleanliness, white from head to foot is the ideal garb for dentist and assistant. Some argue that this frightens the patient, but in these days white surgical aprons are so common that the only hope the dentist has to be outstanding lies in the freshness and crispness of his white raiment: it can't be too fresh or spotless.

Outside the office, the dentist is still a professional gentleman. He should dress carefully, be sufficiently stylish to appear progressive, but not sufficiently "jazzy" to look like a pool room habitué. In and out of the office his linen should be spotless, his neckties fresh and in good taste.

The dentist's social life should offer him relaxation and mental perspective. All day, and many evenings, he must devote to dentistry. If he is to avoid becoming one-sided, helpless in any conversation except one on "shop", he must have outside interests of some sort. Church work or civic activities are to be recommended and, in addition, other purely social relaxations. He must be reasonably well read.

These social activities will bring contacts which may or may not be helpful in practice building. To be known in the community as a solid and useful citizen is helpful, even though indirectly. There is considerable difference of opinion about the value of social contacts. Undoubtedly, one should "stir about", but it is not worth while to prostitute one's social life to practice building.

After the dentist's person, the next item is his personality—perhaps one of the largest items outside his professional ability. Three characteristics of personality loom large. First, he must be gentle, kindly and sympathetic. This trait will enable him to get the patient's viewpoint and reactions; he will be interested in his patient as an individual in trouble, not as a "case". The patient will sense his sympathy and appreciate it.

Second, he must have a cheerful, enthusiastic outlook. "Laugh and the world laughs with you—weep and you weep alone". All the world loves a bright, smiling, cordial personality, provided it is not too patently synthetic, and nowhere is it more valuable than in the dental office. Enthusiasm for dentistry's progress, for its present accomplishments and ideals, for the case in hand, are all important. Visualizing each patient's needs, not as so many gadgets but as so much possibility for future protection of teeth and general health, and attacking that problem as though it were well worth while, is, in itself, an asset to practice building.

Third, he must have the ability to inspire confidence. The same rule holds here as for inspiring confidence in the horse one rides; *one must first have confidence in oneself.* If you lack confidence the patient will instinctively know it. This matter of having confidence is rather complex. First of all, the dentist must be sure of his own ability to master the technical details of the operation—and then to master the patient. One might lay down three general rules for

gaining a patient's confidence; study and know departments, the one and two of dentistry, as outlined above; study and know *people*—and especially people as dental patients; and acquire poise by social activities and by reading dental papers, giving clinics, and working in the dental society. One frequently is asked, "What do you get out of reading a paper or holding an office in the dental society?" It keeps a man on his toes, it builds him up, it is good for his morale. Without any mention of these things to the patient, there is a quiet assurance about the dentist who knows his work, and has the respect of his colleagues.

The person and personality of the office assistant is second in importance only to that of the dentist himself, and too great care cannot be given to the selection and training of the assistant. She is usually the first person the patient contacts in the office; she gives the new patient his first impression of your office and of you. Until you enter the room, she is your official hostess; she should make the patient feel at home and at ease; she should be pleasant or friendly without being assertive, and she should instinctively know when to be either. When you enter the room, she should become an efficient piece of office equipment, not breaking into conversations, nor volunteering information not directly asked for.

### Office Location and Signs

In the East, many of the best professional men will be found practising in their homes, with small door plates bearing their names: "Dr. Brown, Dentist" or "James Brown, D.D.S." in two inch letters. In the West the better practices have usually been in downtown office buildings, the men in residential districts having "neighborhood practices", usually displaying signs running to six inch letters and to neon lights at night. At present many outstanding western men will be found practising in residental sections in the most professional manner. In large cities the office over the drug store is apt to be third rate; in the small community it may house the best practice in town.

Each community or section of the country is a law unto itself as to the most desirable location for a dental office. Certain general considerations apply in any case. The building and neighbourhood should not be run down or dilapidated, and the approach to the suite should not be difficult, dark nor dirty.

Speaking in general, any dentist cheapens himself when he plasters his office with signs, just as a woman cheapens herself by over indulgence in bright colours, lip rouge and paint. After all, a dentist is presumed to be good enough to obtain patients by reference, and signs are designed merely to aid the new patient in seeking him out.

The patient who would drop in at the flash of a neon sign to have a tooth filled, just as he would to have his shoes shined, values his teeth no more than his shoe shine, and is not a desirable patient. Someone, I suppose, must care for such people, but it is difficult to imagine anyone deliberately baiting his office to attract them. They are the folk who are vociferous for socialized dentistry—and socialized dentistry as so far visualized, is just about good enough to satisfy them.

The furnishing of the office is most important, but the young man should be warned not to mortgage his future too severely in order to make his the most up-to-the-minute office in town. That alone will not bring in patients, and the instalments begin at once and continue remorselessly month after month. Many of you started as I did, with an old leg-base chair, a spitoon which was emptied and washed between patients, and a foot

engine; all this when other dentists had fountain cuspidors, electric engines and marvellous onyx switchboards which would have graced any powerhouse. It can be done, and then each new bit of equipment purchased gives joy for weeks to come. Indeed, it is splendid policy to always have some new instrument or bit of equipment or technique; some new society activity or teaching interest; anything to keep enthusiasm alive and turn work into play.

For the older man, I would like to repeat the advice Clapp gave years ago in Brother Bill's Letters. When you go home from this meeting, walk in through your own reception room and see it with critical, appraising eyes, as if you were a new patient, seeing it for the first time. Imagine you are about to meet its owner and entrust to him the care of your teeth. What sort of man is he? What sort of dentist? Scan the reception room from the most prominent chair to the darkest corner; from floor to ceiling; from the pictures on the wall to the date of the magazines on the table. Then decide. Does it portray you to the new patient as you wish to be portrayed? If not, start with a general plan. Get your girl friend or your assistant if necessary, as consultant for the more feminine details. Then revamp that room, bit by bit if necessary, until it suits you. Whatever you do, don't have an expert from a department store come up and make it just like all the other rooms in town!

Look over your operating equipment also. Is it obsolete, shoddy and shabby? Does it look down at the heel? Now is the time to rejuvenate or replace it. Henry Ford is spending millions getting ready for the next boom. Things are tough right now, to be sure. No one knows it better than I, but already there is a definite shortage of home rentals—and that is the first sign of returning boom times. Be assured however, that when good times come, an avalanche of patients will descend upon us.

These last years have been good for us all. We've learned new values in life and in dental practice; we've become more humanitarian. We've had time to assort our knowledge and simplify our procedures; we've consolidated our scientific gains and made them of greater clinical value. Now is the time to brighten up the old equipment and get ready for happier days to come.

In the psychology of the dental office, equipment must not only be efficient and clean—it must look clean and so must the instruments. No matter how careless you think the patient is about brushing his teeth, he is careful about what goes into his mouth. He'll raise Ned if he gets a soiled spoon or glass in a restaurant. He'll be fussier still in your office; he may not raise Ned, but he'll go elsewhere and you'll never know why.

### Handling The Patient

Already we have said much about the patient. He is so ubiquitous. He is our constant study. Frank Wadsworth used to say, "It is easy to make dentures fit from the eyebrows down but it is often difficult to make them successful from the eyebrows up."

Students of physiognomy tell us that the man with a long, sharply-pointed nose is a hound for detail; he wants to know the why for everything, whereas the short, blunt-nosed individual is impatient of detail and research. The woman with highly-arched brows is greatly interested in colour, whereas colour means little to the woman with flat eyebrows. Patients are just as opposite as this in many reactions and your successful dentist has sensitive antennae always extended to catch their slightest moods or reactions.

Patients are always individuals, and any office run strictly on rule, will lose

some of the most desirable ones, who are apt to be, also, the most individualistic. If one patient is not told how much the service is to cost and how he is expected to pay for it, he will be uncomfortable and fearful; if another is told, he will be insulted.

An approximation or a statement of hourly charge as the basis of cost, should be accompanied by a very definite statement that any plan for health service must be elastic enough to meet any exigencies which may arise and that the cost will be based upon the actual service rendered and not upon the approximate estimate.

The patient's full name and data should be obtained at the first appointment; some men have the assistant obtain it as soon as the patient enters. I prefer to do so at the close of the first session, when the patient has become a little better acquainted with us. If an estimate is to be given, it is well to postpone it until the second or third appointment, when the patient will be still better acquainted, and have more confidence in you. Frequently, I state that it would be well to cleanse the teeth first, at a cost of so much, and have x-ray pictures taken before making a thorough examination. At the second appointment it may be found advisable to have study models, or if there is a tooth to be removed, nothing builds up confidence as fast, or as well, as a painless extraction. To tell a patient, at the first session, that two or three teeth must be removed, that to his surprise, he has pyorrhea, that inlays must be replaced, and that a considerable outlay must be made, and expect him to take it from a stranger in whom he has no confidence, is asking a good deal.

It should go without saying, that all lost motion in operating should be eliminated, that anaesthesia should be used so that operations may be free from pain and also free from any compromise with caries, because of pain. Even in this day, many men handicap themselves by not ridding their patients of the dual curse of fear and pain.

The aim of the dental office should be not only efficient dental service for the patient but pleasant service. The patient is your guest; receive him as such. Plan your appointments so that he won't have to wait for you; let him know you are aware that he is in the reception room. If you are delayed unduly with the patient preceding him, have the assistant step into the reception room a second time to assure him that you are almost ready now. Have the reception room well ventilated, with a diversity of up-to-the-minute reading matter and good reading light.

Thoughtfulness for your guest should attend him from the moment he enters until he leaves your door. Don't let long familiarity with dental practice make you careless of the niceties that can be injected into the treatment of dental patients in a modern dental office.

### Salesmanship

Every successful professional man is a salesman of the most subtle kind; he has nothing tangible that can be sold crudely. He sells himself, his personality, his ability, the idea of dentistry as a health service and the idea that only good dentistry will do. The dentist sells himself, his ability and his professional standing by his manner and surroundings; he sells the concept of dentistry as a health service by judicious remarks dropped here and there, and couched in the patient's own language.

For the sharp-nosed patient it is sometimes necessary to visualize pathological conditions by means of illustrations or models, or better still by the patient's own x-ray pictures and study models. This sort of talk, however, should care-

fully avoid two things; one is the "knocking" of past dentists and their efforts. Remember that the patient chose the past dentist and had confidence in him; if you imply that the patient used bad judgment, you immediately arouse resistance in him. Furthermore, you have weakened his confidence in dentists in general. It is far better to find one good bit of dentistry in his mouth and praise it, then move on to what needs to be done. If restorations must be removed, do not criticize the work; if the patient wants to know if they were wrong, say that they undoubtedly were beyond reproach when introduced, but that conditions in the mouth have changed; factors over which the dentist had no control have affected the teeth and undermined some of the dentistry. When a dentist takes the attitude that dentistry should last forever, and that all factors concerned are under the dentist's full control, he is not basing his attitude upon the facts; he is only making matters unnecessarily difficult for himself and for the whole profession.

The important thing to keep always before patients is that the entire body is constantly wearing out, but has marvellous power to rebuild itself *with the one exception of the teeth;* that we as dentists, do our utmost to correct the ravages of wear and disease, but that changing conditions of diet, endocrine function, metabolism, general health, mouth chemistry, and home care are factors entirely beyond our control.

Salesmanship, as it is generally understood, carried on with the aid of charts, motion pictures, lantern slides and a trayful of gadgets, cheapens the dentist and the profession, and not infrequently drives away good patients. One patient who spent a considerable sum in my office for precision attachment partial dentures in conjunction with occlusal reconstruction, left her previous dentist because he brought forth a trayful of bridges and partial dentures, each having a price placed upon it, and asked her to choose the one she wanted. "In that trayful of stuff," she said to me, "there must have been one bridge that suited my case better than any of the others, and it was his business to know which one that was and see that I got it. I didn't want to be my own dentist. I wanted *him* to do the prescribing."

I confess that this phase of practice is most difficult; it is a problem peculiar to dentistry. The difference between a pair of the simplest partial dentures, for instance, and precision attachment appliances, may run to over one hundred hours of a dentist's time, an economic factor which cannot be ignored by either the dentist or his patient. Shall we tell the patient what the most idealistic and also the simplest way to handle his case, will cost? That works with some patients, but others would rather go to someone who will assure them that the simple proposition is the best type of dentistry; it never occurs to some patients that your worst might be better than some other man's best.

Perhaps the best answer to that problem is to belong to the Retail Merchants' Credit Association, and get a financial rating on each new patient. Our Los Angeles City Dental Society has a group membership and a Credit Manager such as a department store would have, to interpret credit reports into practical working terms for us. We are then able to base our prescription upon the principle that we are to give the patient absolutely the best dental service he is able to provide for himself.

Dentists are not endowed. I may believe occlusal reconstruction and precision attachment replacements to be ideal under given conditions, but I am not able to furnish them for patients who cannot provide them for themselves. If my

physician prescribed two years' rest and a trip around the world for me, and I told him that was impossible, I would expect him to do the next best thing for me. I believe that rule also applies in dental practice.

Many simplifications and eliminations can be made before dental remedies cease to be remedies and become menaces. It is true that each simplification makes the replacement or restoration farther from ideal—but it may still remain well within the bounds of dentistry as a health service. Is it not better to base the prescription upon some idea of the patient's ability to provide for himself and give him good amalgam restorations rather than attempt gold foil or inlays utterly beyond his means? Is it not better to give him a resilient open-clasp vulcanite partial denture rather than to estimate on a precision attachment case and lose him to someone who may not serve him as well?

### The Business Office

The credit report tells also, whether or not the patient meets obligations promptly, and to what extent credit may safely be extended. When the report is at all dubious, the cost should be stated in advance and the terms should call for half payment in advance and the balance as completion is neared. Conversations regarding payment should be carried on as though they were ordinary everyday routine. Note the ease with which all sorts of business people with whom you deal speak of cost and payment; you do not resent it, because it is so plainly a part of their routine. It is much better to avoid collection troubles than to be a fine collector of bad accounts. Credit reports on all patients, are the answer to this problem.

Records are most important when an account or a technical procedure finds its way into court. They should be well kept and should be complete; in the case of anaesthesia and surgery they should state any unusual details, and especially the outcome of the operation. More than one malpractice suit has been lost because the patient claimed some damage which the dentist's record failed to disprove. Records may be kept in code, if the key to the code is attached to the file. They should include memoranda of all conversations regarding the case, its technical or financial aspects, how much the fee is to be, when payments are made and when statements were rendered. Some more important conversations might well be initialed by the office assistant, who often becomes an important witness, since it is her duty to be present at all times and to follow conversations so that she may pick up cues informing her that it is time to prepare things the doctor will shortly require.

Bookkeeping in the dental office should not be cumbersome. A ledger account for each patient, which usually carries the clinical record also, and one for each investment, can be kept in a loose leaf book. Incoming and outgoing cash should be recorded in a journal; single entry will usually suffice and should be balanced several times a month. A useful form carries lateral columns back of the cash column, one for each subdivision required for income tax reports; as each entry is made, the sum is entered in the main cash column and also in the subclassification column. A great deal of time is thus saved when the annual income tax affliction comes around.

Each bank deposit is itemized on the opposite page of the cheque book, recording the bank number and name of the drawer of each cheque deposited.

Statements of all accounts should be rendered monthly, so that the patient, whether or not he has had an estimate or contract, may be advised of his standing to date. The statement carries a note

that "Statements of all accounts are rendered and payable monthly."

There should be a recall file in the business office, indexed by months, showing when patients are to be recalled, and what for. Recalls may be made by 'phone, letter, or printed card; they will be successful in the order named.

Men such as exodontists, whose patients come in for a few visits only, sometimes keep a personal data file, containing personal notes about the patient. When he comes in two years later, the doctor asks him how his daughter is getting on with her music, or how his motor boat is behaving, and he is pleased to be so well remembered. We all like to "make an impression" strong enough to be remembered. Here then is a bit of important psychology for all dentists. Take sufficient interest in patients as *persons* to remember or make a note of what they do and in what they are interested, and talk about *their* interests, *not yours*. When that occasional break of a moment or two comes, don't spend it knocking other dentists or the patient's dentistry, or talking about your affairs of the moment; encourage the patient to talk about his affairs or hobbies; he'll enjoy that, and think you're very entertaining.

I have known some dentists who got around the letter of ethics by letting the dental assistant do the knocking. She would walk up to the chair when the doctor had the patient wide open to attack, and say, "My goodness, where in the world did you get that terrible bridge?" Then the doctor would weakly defend the bridge, damning it still further with faint praise. This goes over nicely with some patients, but I have run across some very worthwhile patients who blew right out of the picture under such treatment.

### Associates and Technicians

I have frequently been asked whether it pays to have associates and technicians under foot. I started practice alone, and after taking on a dental assistant, gradually built up a personnel of ten people, in a two and a half storey house having two reception rooms, four operating rooms and x-ray room, laboratory and business office. I'm glad to have had that experience—and also glad it is over. Any establishment of several people should have one person engaged entirely in administering it. The dentist, however, must be the busiest producer in such an establishment, and at the same time its executive.

Dentistry is essentially a personal service, and the most successful way of "turning patients over" to an associate, is to turn over simple operations, with the explanation that the things likely to be difficult *for the patient* you will care for yourself. This keeps you in personal contact with all your patients; but it also keeps you mighty busy, if you have more than one associate. This patient, in making references, will probably mention both you and your associate, and the referred patient will fall in line much more easily. There should, of course, be a difference in the fee schedule, and the associate also takes care of patients who do not care to pay the larger fee which you are able to command.

The associate should receive a salary which covers his gross earnings up to a stated amount per month, after which he receives a percentage of either the gross or net, you furnishing the materials. The difficulty with all such situations is that, no matter how liberal the arrangement, there comes a time when the associate feels he might as well have *all* that he earns. The exception is the man who has tried managing a practice for himself and has found it distasteful. I believe the dentist should keep closely in touch with

laboratory procedures and, ideally, should do his own, with the assistance of a technician.

### Establishing the Fee Basis

Fees should not be based upon guess work or upon what the patient says someone else charges, or upon what some of the other dentists say they charge. They should be based upon the cost of production, plus the living you demand of your practice. If you wish to work on an hourly basis, your cost of production is not difficult to find. However, some operations are more difficult, carry more responsibility and use more costly materials, than others. It is more equitable to the patient and yourself, to charge for the operation rather than the time involved. You will also be saved the dilemma of finding the patient holding a stop watch when you step to the phone. A per hour schedule is more difficult to change. Finally, and perhaps most important, a time basis of charge intimates that you have only time to charge for, and overlooks your knowledge and clinical skill. Nevertheless a knowledge of the time required for standard operations must be the first requisite in establishing fees.

If fees are to be based upon the operation, each operation should be timed, over a considerable period of time, so that an equitable average can be obtained. Operations requiring costly materials should have the materials recorded against them also; in other cases, the materials may go into general office expense.

The appointment book is now checked over for the past two years and the total number of hours per year spent in productive service is recorded.

All cost of production is now totalled. The items will be:

Office rent.

Telephone.

Insurance and all miscellaneous items of overhead.

Dental supplies (excluding precious metals if these were charged against specific operations).

All salaries except one to yourself.

Amortization of the cost of your education in 25 years.

Interest at legal rate on the unamortized balance of your education.

Amortization of equipment cost at 10% annually.

Interest on unamortized equipment investment.

Post-graduate courses and society dues.

This total cost of production is now divided by the total number of working hours, and you have the *cost of production per hour.* Figure the amount you wish per year as personal income and divide it by the number of working hours, to get your *personal income per hour;* add that to the per hour cost of production, and you have your *required fee per hour.*

If your fee is to be based upon the operation, assess against the operation the proportionate charge for the time it consumes, adding the cost of precious metals where indicated.

This is the only scientific way of arriving at a basis for fees. When the demand for a man's time is greater than the supply, this scientific basis gives way to the law of supply and demand, but in all other instances, this method should apply. One of the things that is the matter with dentistry today is that we have been so brow-beaten during the past few years that we have an acute attack of "aggravated jitters" at the thought of seeing a patient's back. Long ago, business men exploded the fallacy that if you do enough business at a loss you make a profit! Nor is there any object in giving the patient dentistry for the pleasure of trading dollars with him.

### Again That Basic Requirement for Success

In the end, as in the beginning, let me stress the point that there is no substitute for rendering the best possible service to the patient. That is the basic requirement for success.

But what *is* success? There are all sorts of versions of it. The man who makes much money, but prostitutes his ideals and cheapens his profession, is a failure; the man who sticks to his ideals and practises dentistry as a preventive health service is a success though he go through life in rags; but I would like to see the man who so steadfastly applies his ideals, reap the reward he so well deserves; and he can do so if he will study and observe the rules of this third division of dentistry as carefully as he studies and observes those of the other two.

*3780 Wilshire Boulevard.*

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# Committee of the American Hospital Association on Dental Care and Internship in Hospitals

by T. L. MARSH, D.D.S., Toronto, Ontario.

RECOGNIZING the need for a greater uniformity in the dental services in hospitals in America, and of the desirability of better facilities for dental internships, the Council on Professional Practice of the American Hospital Association has appointed a committee for the purpose of studying this relationship and of compiling a manual on Dental Services in Hospitals. As the President of the American Hospital Association is resident in Toronto, Canada, and is deeply interested in clinical services and internships in general, the Council on Professional Practice agreed that the nucleus of the committee might readily be zoned in the Toronto, Canada, area with corresponding members located elsewhere on the continent and that the American and Canadian Dental Associations be asked to participate in this study. It is then proposed to submit the draft to leading dental educators and directors of hospital dental services for their criticisms and suggestions.

This is an excellent opportunity for the dental profession to outline the ideal hospital dental service, to suggest the relationship of the dental to other clinical services and to set forth the educational possibilities of the hospital in the training of the dental surgeon. When accepted for publication this will become one of the official bulletins of the American Hospital Association.

When the manual is officially adopted the American Hospital Administration will publish and distribute it.

The Committee for official approval of the manual is the Council on Professional Practice for the American Hospital Association.

The organizing, co-ordinating and editing body is the Committee on Dental Services in Hospitals of the Council on Professional Practice of the American Hospital Association.

The co-operating bodies are the Committee of the American Dental Associa-

tion, the Committee of the Canadian Dental Association.

The Committee on Dental Services in Hospitals is an organizing, co-ordinating and editing body, formed at the request of the Council on professional Practice, acting under the authority of the American Hospital Association and entrusted with the task of directing the preparation of a manual on "Dental Care and Internship in Hospitals."

The manual after approval by the Council on Professional Practice will be adopted by the American Hospital Association as the official standard for the formation, equipping, administration and direction of Dental Services in the member hospitals of the Association in the United States and Canada. The Committee is composed of a general chairman, appointed by the Council on Professional Practice of the American Hospital Association, a general secretary and two assisting local members one of whom is an oral surgeon with hospital training and one general practitioner with wide experience in Public Dental Health. The above, together with a local medical representative of the Council on Professional Practice, (the present President of the American Hospital Association) constitute the nucleus committee.

In addition there are two representatives of the American Dental Association, appointed by the American Dental Association, and similarly appointed two representatives of the Canadian Dental Association.

At the discretion of the nucleus committee and with the approval of the Council on Professional Practice additional representatives of the interested bodies may be appointed to the committee if such appointments appear advisable to facilitate the completion of the study.

The American Hospital Association desires to afford every opportunity to the dental profession to participate and co-operate in the formulating of standards which will determine the future status of the dental service and its personnel in the member hospitals in Canada and the United States. The committee will be very appreciative of any suggestions or assistance which can be obtained from other organizations or committees, and will be happy to give due credit to work already done by other bodies.

The members of the committee will be considered to be acting in a consulting, co-operating and advisory capacity to the nucleus committee who in conjunction with the representative of the Council on Professional Practice (Dr. Harvey Agnew, the present president of the American Hospital Association) will be solely responsible to the Council on Professional Practice of the A.H.A. for their decisions and actions.

The committee at present is composed as follows:

1. A nucleus committee located in Toronto, Canada, consists of: Chairman: Dr. T. L. Marsh, 2 College Street, Secretary: Dr. Ralph G. Harris, 2 College Street. Oral Surgeon: Dr. George Morgan, 2 Bloor Street East. General Practitioner: Dr. A. E. Higgins, 86 Bloor Street West. President of the A.H.A.: Dr. Harvey Agnew, 184 College Street.

2. Two representatives of the C.D.A.: Dr. Vernon Fisk, 170 St. George St., Dr. Harvey Reid, 190 Yonge Street.

3. Two representatives of the A.D.A.: Dr. Lon W. Morrey, 212 E. Superior Street, Chicago, Ill., Dr. Wm. H. S. Logan, 55 E. Washington Street, Chicago, Ill.

In order to facilitate the work of the nucleus committee it has been decided that all correspondence relative to the Canadian portion of this study should be addressed to the Chairman of the Canadian Committee, Dr. Vernon Fisk, 170 St. George Street, Toronto.

# A Technique for Full Dentures *

by GEORGE A. BUCKLEY, D.D.S., New York City.

IN THE full denture procedure we have tried to embody the fundamental principles of denture construction and, at the same time, have tried to keep the technique from becoming too cumbersome by the use of too much armamentarium for practical purposes. We have tried to eliminate sources of error as we saw them, not only in impression making, but also in obtaining our maxillomandibular relationship and the transferring of this relationship to our articulator. In other words, we have tried to make the technique as fool-proof as possible, yet simple and practical enough so that it can be readily learned. However, we do not want to convey the idea that a technique or a material will do all the work; we can expect results proportionate to the knowledge and skill of the individual.

There are a great many facts that apply to all materials and methods. In impression taking an air-tight seal against the ridges seems to be the general objective. But we must remember that bone withstands very little pressure before it will break down and resorb. Hence we must depend on other factors if we intend to keep our dentures in full function. Added stability of dentures can be accomplished by terminating the borders with enough pressure on the soft tissues around the periphery and with sufficient width of the borders to completely fill the muco-buccal fold.

However, we should note that we do have certain resistant areas along the periphery which must be relieved. Along the peripheral border of the upper the resistant areas are the labial frenum—the tendinous buccinator attachments; the area between the buccinator attachments and the tuberosity is the zygomatic or molar process which is a hard area and should be relieved. In the peripheral border of the lower the resistant areas are the labial frenum, lingual frenum, posterior half of the mylohyoid muscle and the buccinator muscle attachments. In some mouths the degree of resistance of these areas is very deceiving and is best determined by palpation. We should know these areas and their degree of resistance in any case, because no material will automatically mould the correct border for us.

If we can cover all the bearing area possible with a tolerant degree of pressure against the soft tissues allowing sufficient relief for our resistant areas we can decrease our ridge soreness due to biting pressure and greatly increase our stability. In obtaining this tolerant pressure against the soft tissue, we must make sure, especially in the lower, that the tissue is getting the same tolerant pressure on each side. If we have the full pressure on the one side and quite insufficient pressure on the other, the lower denture will tend to shift to the side with the insufficient pressure and cause looseness of the denture and soreness along the mylohyoid area of that side. This fine degree of border pressure cannot be obtained with all impression materials; it seems quite impossible, for example, to heat and carry compound to the mouth to flow with uniform resistance. Perhaps some few can

* Read before the Fourth Convention of the French Speaking Dentists of North America, Montreal, June, 1938.

do it but the majority cannot. With our resistant zinc oxide eugenol paste, where we can get a continuous flow of the material over our borders, we can get this fine degree of border pressure. If on removal of the impression should the vulcanite or shellac base tray show through the material on our border, we know that the pressure is too great in that area and should be reduced.

Since the ability of the ridges to withstand biting pressure is proportionate to the size of the bearing area, and the lower denture being the lesser of the two in area, our quest should be to increase the size of the bearing area of the lower to a point of tolerable limits. We can hardly increase the depth of our lingual flanges, but we can, however, increase the size of our buccal flanges. The area from the buccinator tendinous attachment to the external oblique ridge is a non-resistant area and can usually accommodate a wide buccal flange. If these buccal flanges are evenly extended on each side with a tolerant pressure they will greatly increase the size of the bearing area and increase stability. Likewise, we should cover the area on the lower ridge up to the ramus of the mandible. Therefore, the most desirable impression would be one that covers all the bordering areas completely, having an even distribution of pressure over the ridges and with an even placement of the soft tissues to share the load equally with the hard. We think the nearest to the ideal so far is a closed mouth impression under centric biting pressure and registering centric by using the impression as bases and mounting the impression on an articulator.

Before proceeding with impressions we make a detailed study of the various anatomical conditions we find in the edentulous mouth and make written notes of these conditions on our diagnostic chart. In this wav we are better able to know what problems and difficulties we will likely encounter with the individual case and also to inform our patients as to the results they can expect. When we are satisfied with our diagnosis we spend some time on patient instruction. Here we appraise the patient of the difficulties of wearing full dentures generally, and then point out specific instances where the patient may have more or less difficulty than usual due to various conditions Time spent at this stage is worthwhile and saves time, trouble and harangue later when the dentures are completed.

### Impression Taking

The first step in the procedure is the preliminary impression. Modelling compound is used and we keep in mind our equalization of pressure over tissues and border extension as much as possible. From these impressions preliminary casts are made of either plaster or stone. Over these casts shellac base plates are adapted or vulcanite bases processed. Wax bite rims are attached and a preliminary centric relationship is established. No great care is taken for the exact centric. We do, however, try to accurately determine our vertical dimension. These preliminary casts are mounted on any articulator and the Stansberry central bearing point plates are attached. The tracer table is then smoked and the bases with tracer attached are placed in the mouth.

The patient is told to keep the mouth closed with the central bearing point against the upper plate and then instructed to move the mandible through various excursions. A gothic arch tracing will soon show itself. Occasionally due to partial loss of teeth, premature or lateral occlusion, or an edentulous case over a long period, the patient may experience some difficulty in establishing a good tracing. However, with persistence and a little time the patient will finally give you a tracing. The paste we use was

developed at the New York University by Dr. V. R. Trappazane and J. J. Kohout. The zinc oxide eugenol impression material is put in the mouth and the mandible is guided into centric using the gothic arch tracing as an index. The patient is told to use medium biting pressure. In half a minute or a minute, depending upon whether you use a slow set or a fast set, the patient is told to move the lips forward as in whistling or backward as in grinning. The set is slow enough to allow resistant areas to work downward to their fullest depths. The impression can be removed in three minutes.

The same procedure is followed with the lower impression. These impressions are correctible and may be added to if necessary—they may be taken in and out of the mouth as often as necessary. The material does not require a separating media (source of error) and makes a good smooth cast. The setting time outside the mouth is a little slower than in the mouth. Heat and moisture cause it to set faster. It requires only one minute to mix, and depending upon the proportions used, the mix can be made to set in as short a time as one minute or as long as ten minutes. It is not affected by atmospheric pressure.

Using the finished impressions as bases, the tracer table is re-smoked and a new gothic arch tracing is made. Using the firm fixed impressions as bases we eliminate slipping and movement of the bases which is a great source of error in obtaining a centric relationship. After obtaining a new gothic arch tracing, quick setting plaster is inserted between the bearing plates with the point of the tracer at the apex of the gothic arch which is centric. After removing the centric plaster registers we again insert quick setting plaster and obtain a protrusive plaster registration by having the patient move the point of the tracer along the protrusive line of the gothic arch tracing. This protrusive plaster register is then removed from the mouth and a face bow record is obtained. The casts are then flowed and mounted on the articulator before the impressions are separated from the cast. This avoids a possible error of mounting casts by warped or ill-fitting base plates. After the casts are mounted the impressions are separated from the cast. New base plates are adapted and a tentative set-up of the teeth is made. The teeth are tried in the mouth and are altered for aesthetics and the upper cast is post-dammed. A final set-up of the teeth in centric lateral protrusive balance is made and the cases are waxed for processing. A plaster register of the upper teeth on the articulator is made before the case is processed. This is done to preserve our face bow mounting. After processing the finished dentures they are remounted on the articulator by means of centric wax-check-bite method. This mounting is checked again and if proven, the case is spot ground in centric lateral and protrusive positions on the articulator and is then milled.

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*Golf is not a game. It is a disease. As the lady said when applying for a separation from her husband, "It gets into the blood-stream." Everyone who has played in tournaments knows that while the tournament lasts, and for several days afterwards, it is impossible to think about anything except shots that might have been played better. . .*

*Some men never play in competitions. They are the only fundamentally happy golfers. . . Not to play in competitions at all, not to mind whether you win or lose half a crown in a friendly match, to delight in walking on springy turf, the sight of yellow gorse and purple heather, is the proper way to play golf as a recreation. About one player in every thousand has this mentality.—Arthur Mills in "Men Only."*

# Problems in Practice

**PROBLEM FROM ONTARIO:**

I would like to submit the following problem which is giving me some concern. I have a young woman patient, in her middle twenties, who had a mouth comparatively free from caries until her first pregnancy which terminated last July. Between January and July she had twenty cavities filled. Since then her mouth was again placed in a condition of health but in spite of this she has now six or seven more cavities. She has been under continuous medical and dental care; her diet has been checked; calcium and other preparations have been prescribed but still the development of dental caries has not been checked.

I would appreciate receiving some suggestions for treating this case.—*C. J. Egan, D.D.S., Dryden.*

**REPLY FROM BRITISH COLUMBIA:**

The information supplied by the dentist is not sufficient for me to understand the case. He does not refer to the nature of the continuous medical and dental care nor the manner in which the diet has been checked, the quantities of calcium, and the names of other preparations which have been prescribed; so that, lacking this information, it would seem presumptuous to make a diagnosis.

I am inclined, however, to go so far as to state that the caries, being a local manifestation of a systemic disturbance probably brought on by pregnancy, is one to be solved not by the dentist alone, but by him in consultation with the physician in charge of the case.

Two general observations may be made, as follows:—

The addition of calcium to an otherwise adequate diet will probably have the opposite effect to that which is intended or desired.

I am of the opinion that in cases similar to the one described an activator in the form of some preparation of vitamin D is indispensable, in order to meet the increased demands for calcium and phosphorus. No mention of vitamin therapy has been made by your correspondent.—*W. J. Lea, D.D.S., Vancouver.*

**REPLY FROM BRITISH COLUMBIA:**

Proper diagnosis, treatment and prevention in a case such as this, depends on isolation of all the factors involved and their individual disposal. Any diagnosis of this particular case must therefore be on a broad general basis, for the information supplied, such as, diet having been checked, calcium and other preparations given, constant dental and medical care, is not sufficiently detailed to allow of accurate conclusions.

Assuming the diet is adequately balanced and calcium assimilation assured by the proper vitamin adjuncts, natural and otherwise, one must turn to other factors.

Pregnancy, since it was coincident with this sudden change, naturally must be taken into consideration. However, there is a factor preceding pregnancy which must also be considered, and that is change of environment, mode of living, mental and nervous change, all brought about by marriage. These various points should be thoroughly weighed as to their possible effect.

The effects of pregnancy should also be considered from two angles, first, the added drain of the bone forming elements to the foetus, and second, the endocrine readjustment, brought about

by pregnancy, in the mother's system.

As to the first, we assume that this has been carefully investigated and allowed for in the adequate diet and adjuncts. Also since the diversion of foetal calcium could hardly account for such a sudden and vicious breakdown in the previously well-formed parental enamel, we may then assume that it is due to a chemical change in normally protective fluids of the mouth and nutrient elements of the blood serum. This brings us to the second point which I have previously mentioned, namely, endocrine readjustment. Here the untrained should step warily. I have found in similar cases under my care that weaning of the baby, rest, and if possible, total release from mental strain and worry have done more than any other treatment to re-establish disturbed endocrine balance, and as a result, its complex chemical changes throughout the body have been in some cases suddenly and others gradually normalized. Other than normal termination to pregnancy can in many cases give a very complex problem in this respect and this also must be considered, and only the advice of a competent endocrinologist or gynaecologist should be followed.

From data available, one must assume that foci of infection with their deleterious effects have been considered and eliminated by the physician who is providing the medical attention.

The study of this case, including early history, the results of detailed metabolic tests, all psychologic data and post terminal condition, would, I am sure, prove of interest to the dental profession, and I personally would be pleased to know the final results.—*B. E. Nickells, D.D.S., Victoria.*

**REPLY FROM QUEBEC:**

It is obvious from the report that the exciting factor was the pregnancy, which would imply a metabolic derangement, possibly glandular.

Personally, I would put this patient under the care of a medical authority on metabolism with the request that in addition to the usual analyses, a careful test of the saliva be carried out. (See "Oral Diagnosis and Treatment Planning"—Thoma—W. B. Saunders Co., pages 58 and 59.)

In this same volume, on page 156, under "Diagnosis of Odontitis" and discussing the "Protective Reaction," is the following:

"This process of defense is governed by systemic conditions. It is decreased in pregnancy, lactation, and during the period of growth when the skeleton makes great demand on the calcium and phosphorus supply; it is adversely affected also in certain constitutional diseases and various forms of avitaminoses. It is increased by a diet rich in phosphorus and food accessory factors, such as vitamins, and by sunshine and good health."

In the report it is stated, "calcium and other preparations have been prescribed." How is it established that the patient assimilates these materials?

All that dentistry can do at present, it appears to me, is to treat the symptoms: dental phophylaxis weekly for two months; instruction of patient so that the teeth are thoroughly cleaned after each meal with the use of alkaline tooth powder and mouth wash. I hope it is not superfluous for me to mention that adjustment of the occlusion will improve blood supply to the pulp and reduce irritation of the supporting tissues.—*D. P. Mowry, D.D.S., Montreal.*

**REPLY FROM ONTARIO:**

The persistence of the tooth destruction in this case is of much interest, the patient having completed her pregnancy and having received adequate dental and

dietary treatment. Such a case helps to confirm our increasing knowledge that the formation of caries during pregnancy is not due to the removal of calcium from the fixed stores in the enamel but to a much more complicated metabolic derangement. Such cases of malignant caries have frequently been observed in individuals who have been subjected to stresses and strains comparable to pregnancy and the months which follow it. If this woman was immune to caries before her pregnancy something has happened which has changed her dental environment. We see similar changes in children following infectious diseases and in adults suffering from chronic ill health. A change in the mouth secretions is the most likely cause which has allowed activation of acid-forming organisms.

With the information given it is impossible to trace the cause but remembering that such secretions are under the control of the nervous and endocrine systems and that the glands concerned are dependent for their nourishment on a normal blood supply, a possible cause might be found by a thorough investigation of these systems with particular reference to the hydrogen ion-concentration of the saliva.—*Wallace Graham, D.D.S., M.D., Toronto.*

**REPLY FROM ONTARIO:**

The appetite often becomes fickle during pregnancy, due to the changed physical condition. The patient will frequently veer towards bread and butter, biscuits, cake and sweet foods, and will take less of protein foods and vegetables and fruits in variety—in fact, will in large measure exclude them. This is the type that develops dental caries.

A patient, presenting herself, with caries, as in the case submitted, will be found to have fallen into the habit as above outlined.

The continuance of the caries, following parturition, is no doubt due to continuance of the habits formed during pregnancy.

Patients may be kept "caries free" during pregnancy according to the degree in which they adhere to a regime of *moderate* grain or flour foods, and *very great moderation* in the use of foods naturally sweet, or foods artificially sweetened with sugar. (Sweetening with coal-tar products, as saccharin, does not produce the same result.)

The supplementary administration of mineral or vitamin preparations—vitamin D being frequently mentioned—will not prevent caries.

Caries is not a deficiency disease. It is an excess disease—an excess of carbohydrates beyond the body needs of the given individual.

Reference might be made to an article by the writer published in the February 1939 number of the Journal of the Canadian Dental Association, where this subject is discussed at greater length.—*F. C. Husband, D.D.S., Toronto.*

**REPLY FROM SASKATCHEWAN:**

From the case history as presented it would seem fairly obvious that this patient's marked susceptibility to caries is the result of a continued metabolic disturbance, which started during the first three months of pregnancy. Correction of this metabolic disorder would thus be the first objective in arresting caries.

I would suggest that menus representative of those at present used for each of the three meals be secured. Obtain about 20 c.c. of the patient's saliva—add enough formalin to make a one per cent solution—and have this analyzed, particularly as to its calcium and phosphorus content. It would be very fortunate if you could enlist the services of Dr. Weston A. Price, of Cleveland, in

this connection. X-rays should be made to study bone structure and discover incipient cavities.

From the information thus obtained I would recommend diet changes not in generalities, but as a specific and calculated prescription. Be sure that the menus, thus prescribed, provide more than an adequate amount of phosphorus (as in sea foods), calcium and vitamins A and D. No white flour products or highly refined and concentrated foods should be used but rather use foods as nearly as possible in their natural state, supplemented by fat soluble activators in the form of cod liver oil concentrate and high vitamin dairy products.

Assuming that all cavities, as revealed by x-rays, have been filled, I would suggest that in addition Howe's ammoniacal solution of silver nitrate be applied carefully and thoroughly in the prescribed manner, to all surfaces of the teeth susceptible to caries.

Recent studies indicate that oral tissues as a whole are influenced by endocrine imbalance and furthermore, hormonal secretions may be a potent factor in the aetiology of dental caries, but frankly, my knowledge of this phase of the problem is too limited to make any recommendations. — *Harold Johnston, D.D.S., Moose Jaw.*

**REPLY FROM MANITOBA:**

Dr. Harold K. Box, in Bul. 24, suggests that the lingual freedom from caries is due to alkalinity of the saliva secreted by the sub-maxillary and sub-lingual glands. These fluids are confined to the space bounded by the floor and roof of the mouth and the palatal and lingual surfaces of the teeth, which space Dr. Box calls the oral cavity proper in distinction from the oral vestibule which is the space between the cheeks and lips on the one side and the labio-buccal surfaces of the teeth and gingivae on the other. Fluids flooding the oral vestibule of 89% of 200 cases tested by Dr. Box in his own practice showed an acid reaction. He submits that this vestibule acidity along with starchy debris furnish an ideal cultural condition for bacillus acidophilus to form acids of sufficient intensity to successfully attack and break down enamel surfaces.

From this information is it not reasonable to conclude that, in the case of the woman mentioned in problem, her comparative immunity prior to pregnancy was due to alkaline reaction of the parotid saliva, (11% were either neutral or alkaline in the 200 cases treated by Dr. Box,) and the loss of immunity after the onset of pregnancy was due to an acid parotid saliva, the result of a change in metabolism?

From observation during 35 years in dentistry we submit that the time elapsed since the termination of pregnancy (8 months) is not nearly long enough for her metabolism to return to the pre-pregnancy state, particularly if she has breast-fed her offspring.

To combat present susceptibility would suggest eliminating all starchy, sticky foods and substituting whole meal foods such as cracked wheat porridge (if her digestive apparatus can handle it) with a teaspoonful of wheat germ bran, dry and uncooked, added to the individual serving after it is removed from the stove. Rye Crisp is also an excellent substitute for white bread. The most important preventive is to impress upon the patient that a clean tooth never decays and let her act accordingly.—*J. F. Morrison, D.D.S., Winnipeg.*

*A nation's morals are like its teeth: the worse they are decayed the more it hurts to touch them.—G. Bernard Shaw.*

# The Forum

## • REPORT OF THE INTERNATIONAL CONGRESS OF PHYSIOLOGISTS AT ZURICH, SWITZERLAND

*(Excerpt from the report presented at the Staff Meeting of the Mayo Clinic by E. C. Kendall, Ph.D., Division of Biochemistry.)*

AT BASEL, Switzerland, I visited a number of manufacturing plants and laboratories. I stood beside barrels of sorbitol which is an intermediate in the synthesis of vitamin C from glucose. When it is recalled that the first 10 gm. of vitamin C were separated from the adrenal cortex in the biochemical laboratory at the Mayo Foundation by Dr. Szent-Györgyi in 1929, it is a remarkable achievement to produce this substance from glucose at the rate of thousands of pounds a year. In another room I saw the commercial preparation of crystalline synthetic vitamin B, and, most surprising of all, they showed me the synthesis of vitamin E on a commercial scale. The synthesis of this compound has just been announced by Karrer at the meeting in Zürich. The vitamin was prepared 99 per cent pure, and they have sufficient supply to meet any demands for this newest triumph of organic chemistry.

The broad field of essential pharmaceutical products which is controlled by these firms shows how they have taken advantage of the recent progress in our knowledge of the hormones and vitamins. Epinephine, thyroxin, the female sex hormone progesterone, vitamin B, vitamin C, vitamin E and the crystalline cortin-like compound, desoxycorticosterone are all prepared synthetically. Vitamin K has now been separated in crystalline form by Professor Doisy's laboratory in St. Louis. We shall watch the future to see how soon its synthetic preparation will be announced.

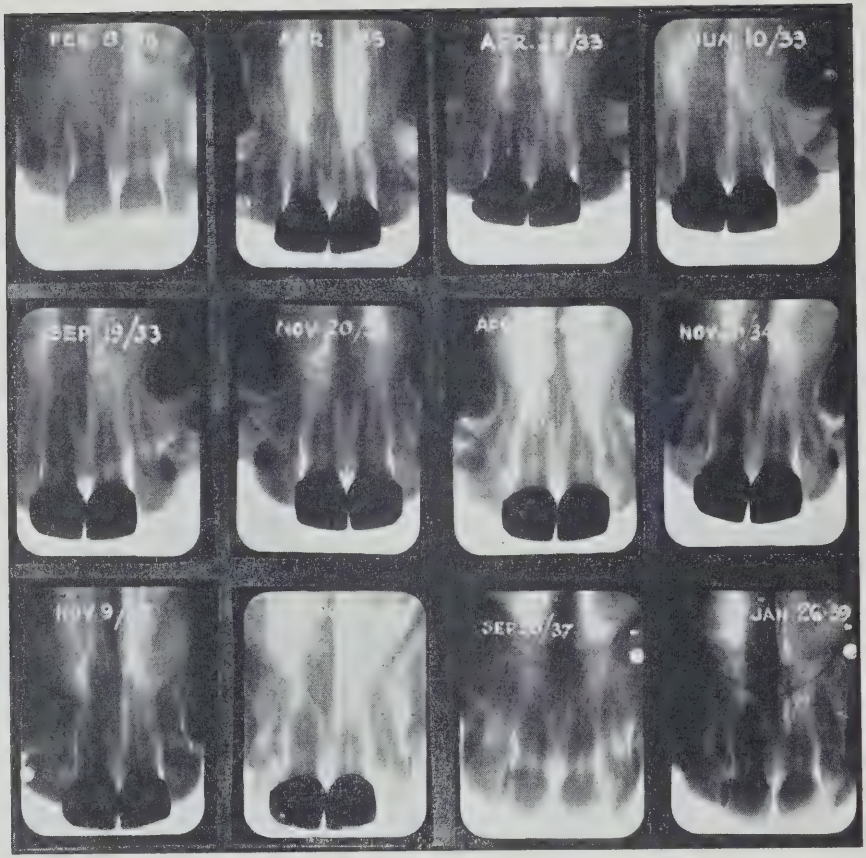
Biochemistry is rapidly advancing. The new compounds and new viewpoints which have come from biochemical research within the last few years will furnish opportunities for far-reaching investigations in the field of experimental physiology and medicine. The next meeting of the Congress will be held in England in 1941: it will be of interest to note how far down the alphabet the list of vitamins will reach by that time.—*From the Proceedings of the Staff Meetings of the Mayo Clinic, February 1, 1939.*

## • SOCIAL SECURITY

SOCIAL SECURITY is already becoming an almost insurmountable burden. Another tax rate for a federal health insurance system would be another severe blow to millions already staggering under the greatest burden of taxation that the country has ever experienced. About 25 per cent of the average producer's income is now being absorbed in visible and hidden taxation which goes into a fund to pay government expenses. Tax money comes from the people, but it does not belong to the per capita wealth of the people. About one-fourth of the country's monetary wealth is being used by the government. Dr. Morris Fishbein, writing editorially, states that the additional taxation required to finance any of these general health-insurance programs with federal and state funds would lead to economic dislocations which would aggravate the very conditions it should remedy. — *From the Report of the Committee on Socio-Economics and the Committee on Legislation, American Association of Orthodontists, 1938.—Am. Jour. of Orthodontics and Oral Surg.*

## • CASE REPORT

by S. G. McCAUGHEY, D.D.S., Ottawa, Ontario




A GIRL, aged 8, presented herself twelve hours after an accident with the horn of the pulp in the right central exposed. The exposure was cauterized with phenol and a capping of "thymozim" placed over the fractured ends of the teeth. Open faced crowns were inserted with copper cement and later the labial portion was removed and replaced with silicate. This was left in position for four and a half years and until the roentgenograph showed the roots to be completely calcified, when the temporary restorations were replaced by jacket crowns. The above pictures show the progress of calcification of these injured teeth.

## • CLEANSING HANDPIECES

by GEORGE C. HARE, Toronto, Ontario

USE three handpieces and as each is taken from a patient it is dropped into an open-mouthed bottle containing Duco Thinner which can be obtained at any hardware store. This solution has a very complex formula and will thoroughly clean anything which happens to be within the handpiece. I am told, also, that it is a very powerful antiseptic but I cannot vouch for this.

When all three handpieces have been used, or at any convenient time, they are placed in the straight handpiece and run in the solution to flush out any grit, saliva, etc., which may still remain. They are then taken to the laboratory where they are placed in the upper half of a double boiler which is kept for this purpose and which is filled with ordinary vaseline. The water in the lower half is brought to a boil and the handpieces are allowed to simmer in the now liquid vaseline for five minutes or longer.

At this time they are lifted out with pliers and the excess liquid vaseline is allowed to drain back into the boiler before the handpieces are wiped off on a clean cloth.

When the handpiece cools, in a minute or so, it will be found that the outer case is clean and polished while the inner gears are well coated with a film of grease which will not lift off like oil when the saliva strikes it.

Very important is the fact that there is absolutely no disturbing taste, stain or odour in the patient's mouth.

Writing it out seems to make this appear a complicated procedure but the whole process only takes a few minutes and the handpieces are *clean* and *well greased.*

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## *Conventions*

WESTERN CANADA DENTAL SOCIETY, WINNIPEG, MAY 29-31, 1939.

SEVENTY-SECOND ANNUAL CONVENTION OF THE ONTARIO DENTAL ASSOCIATION, ROYAL YORK HOTEL, TORONTO, ONTARIO, JUNE 5-7, 1939.
Dentists from the United States and from parts of Canada outside of Ontario will be welcomed.

FIFTH CONVENTION OF THE FRENCH SPEAKING DENTISTS OF NORTH AMERICA, MOUNT ROYAL HOTEL, MONTREAL, JUNE 8-10, 1939.

ANNUAL MEETING OF THE NEW BRUNSWICK DENTAL SOCIETY, MONCTON, PROBABLY IN JULY.

TWENTY-SIXTH ANNUAL MEETING OF THE AMERICAN ACADEMY OF PERIODONTOLOGY, HOTEL WISCONSIN, MILWAUKEE, WISCONSIN, JULY 13-15.

AMERICAN DENTAL ASSOCIATION, MILWAUKEE, WISCONSIN, JULY 17-21, 1939.

FIFTEENTH ANNUAL SESSION OF THE AMERICAN DENTAL ASSISTANTS ASSOCIATION, ASTOR HOTEL, MILWAUKEE, WISCONSIN, JULY 17-21, 1939.
Lucile S. Hodge, Gen. Sec., 401 Medical Arts Building, Knoxville, Tennessee.

AMERICAN DENTAL SOCIETY OF EUROPE, LAUSANNE, SWITZERLAND, AUGUST 5-9, 1939.
K. C. Campbell, Secretary, 88 Portland Place, London W.1., England.

AUSTRALIAN DENTAL CONGRESS, MELBOURNE, AUGUST 21-26, 1939.

FIFTEENTH ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, MOUNT ROYAL HOTEL, MONTREAL, SEPTEMBER 27-29, 1939.
Chairman, Publicity Committee, Frank A. Edward, Medical Arts Building, Montreal, Quebec.

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*The higher men climb the longer their working day. And any young man with a streak of idleness in him may better make up his mind at the beginning that mediocrity will be his lot. Without immense, sustained effort he will not climb high. And even though fortune or chance were to lift him high, he would not stay there. For to keep at the top is harder almost than to get there.—Cardinal Gibbons, in Medley.*

## • LEGAL MATTERS

by R. G. BIRD, ESQ., London, England

A DENTAL practitioner is bound to use a reasonable amount of care and skill at all times towards his patients, paying or non-paying. The decision as to whether this reasonable degree was attained rests with the Court, but the Court takes into account the fitness of the practitioner, the state of dental thought at the time, as expressed by the opinion of an expert witness, the locality and scale of fees, and the eminence of the practitioner, or, in short, the probable action of the average practitioner if placed in similar circumstances. For example, then, a mistake or accident is not of itself actionable, nor is a wrong diagnosis and ineffective treatment, but only if the Court decides that reasonable care and skill were not used. It is important to obtain the consent of the patient to any operation, and the consent includes the patient's knowledge of the exact nature, extent and results of the treatment. Courts have accepted an implied consent, but this is not satisfactory, as the patient may easily repudiate it. Consent may be given by the patient, or by a parent or guardian for a child (an infant under 16 is legally incapable of consenting to anything), but a husband's consent for his wife is not now necessary.

The most common action brought against the dentist is that of malpractice. Here are a few examples of possible malpractice: failure to x-ray in cases of possible fracture; failure to pack throat for gas extraction; failure to take x-ray for extraction of misplaced teeth; the faulty mounting of x-rays upside down or inside out; accidental inhalation of root canal reamer; failure to appreciate an idiosyncrasy to local anaesthetic; and the mixing up of cards or charts. In cases of accidental injury to soft tissues by stones, hot instruments, etc., the patient would often seem to complain of severe shock, and claim the expenses of a long sea voyage (very nice, too!), these cases being very difficult to defend.

Patients may refuse to pay an x-ray fee on the grounds that they have not received the films. The general opinion seems to be that the patient pays for an opinion by the radiologist, and not for the films. Thus, the radiologist is entitled to keep the x-ray, and the patient would find it impossible to compel him to send even his report to another dentist on another occasion.

### Conclusions

1. It is wise to join a medical protection society as soon as possible, and thereby avail oneself not only of legal defence, but of special medicolegal knowledge and advice which is invaluable after a mishap or before a certain course of action is taken.

2. After a mishap, however trivial, be sympathetic, but say or do nothing which in any way admits liability, and note on the patient's chart exactly what has happened and whether or not the patient has been told. As a general rule, of course, much trouble is saved and much risk avoided by telling the patient, although we are all very tempted not to do so. If a needle breaks and cannot be removed immediately, send the defective hub of the needle and other needles in the phial to the protection society at once, for examination.

3. Never tell a patient who is proving awkward to manage, that you are backed by a protection society, until that society tells you to.

4. Always have a partnership agreement in writing, the other partners being responsible according to law for the acts of one of them.

5. Promise nothing and explain every thing.

6. And finally, tempt neither Providence nor the Dental Board.—*Abstract of Article in Guy's Hospital Gazette, August* 1, 1938.

## • DENTAL EDUCATION

by J. H. SANDBLOM, Stockholm, Sweden

(*Excerpt from Presidential Address delivered at the Annual Meeting of the American Dental Society of Europe, held in Stockholm, on August* 1-3, 1938.)

IN MY opinion, dental students should have two or three years of medicine and, what I consider very important, one year's training in the medical and surgical departments of a hospital. We as dentists are nowadays very far advanced in conservative, operative and technical procedures but we are lacking in our understanding and recognition of systemic diseases which may be caused by diseased teeth. Beside training should be included in dental studies. Students of medicine should also have better and more thorough instruction in dentistry in order to be able, not to treat, but to a certain extent, diagnose dental diseases and to know what modern dentistry can accomplish with proper treatment.—*Den. Mag. & Oral Topics.*

## • CHEMICAL INVESTIGATION OF SALIVARY CALCULUS

by GERTRUDE E. GLOCK and MARGARET M. MURRAY

*Department of Physiology, Bedford College (University of London), London, Eng.*

SUMMARY

1. A study has been made of the inorganic and organic material of salivary calculus. 2. The inorganic material (82.9 per cent) is made up of calcium and magnesium phosphates (79.7 per cent) and calcium carbonate (3.2 per cent). 3. There is 8.34 per cent protein present. This is found to consist of keratin, mucin and nucleoprotein (or nucleic acid). There is also 2.7 per cent fat. 4. Spectrum analysis revealed the presence of small amounts of Cu, Ag, Na, Sn and traces of Zn, Al, Ba, Sr and possibly Cr. 5. X-ray crystallographic analysis gave poor results. Salivary calculus is largely amorphous, though probably in part "apatite" like in structure.—*Jour. of D. Research, August,* 1938.

## • DENTISTRY AS A PRIVILEGE

THE Supreme Court of New Jersey has upheld in a test case the constitutionality of a statute enacted by the Legislalature prohibiting dentists from advertising prices and the character of their services. Its decision is interesting in that it gives emphasis to judicial interpretations of differences between business and privileges. Dentistry, it says in effect, is not a business in which anyone may engage but is a privilege, the exercise whereof is properly subject to regulation by the State.

The State Board of Registration and Examination in Dentistry suspended a certain dentist's license for thirty days on the ground he had violated the statute in question. It was argued on his behalf that the law deprived the practitioner of constitutional rights and vested the board with an improper exercise of the State's police power. In overruling this contention the Supreme Court says:

"The practice of dentistry is not a business but a privilege, and the practice thereof is subject to State regulation in the interest of the public. . . . It is not necessary for it (the board) to investigate the truth or falsity of the advertisements adduced, since they admittedly offend against the legislative concept of proper dental practice. It is clear that the Legislature . . . was enacting a law necessary to protect the public from the wiles and artifices of charlatans."—*N.Y. Sun.*

**• QUALIFICATIONS OF A DENTIST**

"A DENTIST to be successful must be a surgeon, an artist, a sculptor and a mechanic. He must have the same mental grasp of the laws of physics, chemistry and biology as is needed by the physician. He must have the manipulative skill that is required by the surgeon in his most delicate work. He must be able to take advantage of the finest requirements of the mechanic, and must have the ability to carry out those mechanical operations on living tissue in such manner as to cause no irritation thereto. His workshop is a hole in the face about two inches in diameter; in that hole he has to perform all of his operations, and the patient takes the work away with him. In nine-tenths of the work done by the physician or surgeon, nature is expected to complete what he leaves. The dentist has to do his work. His failures stand out where he can always see them. The doctor buries his." Elba Hubbard,—*per The Australian Jour. of Dentistry.*

**"Harvey is starting to a new dentist today and he doesn't want to appear too prosperous."**

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*Editor*—M. H. GARVIN, Winnipeg

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# *Why a Canadian Dental Association?*

National dentistry is at the cross-roads. It must go forward or collapse. There was a time when many were quite satisfied to allow our National Association to exist as a mere skeleton, with just enough energy and power to be able to say that we had such an organization.

Today conditions are changing and dental leaders throughout Canada are determined that our National body, the Canadian Dental Association, must be developed into a strong, forceful, energetic organization, maintaining a salient position in the practice of dentistry throughout Canada. Failing this, organized dentistry in Canada will disintegrate into several different units with little co-operation between them and with less interest among the individual members composing these various groups.

We are frequently asked, "What is the Canadian Dental Association doing for *me?*" or "What *can* it do for me?" The National Association can do much for every Canadian dentist; indeed, it is the only organization which can do anything effectively. In dealing with some of our problems, such as that of the dental health of our primitive races, it can, through

publicity and legislative action, accomplish results which would mean a great deal to many of our dentists, and also much to the above-mentioned races. It is the medium through which we must depend for approach to the Government on matters of tariff, legislative reforms, and problems such as the one which confronted our profession recently when the Rowell Commission was dealing with Dominion-Provincial Relations in its exhaustive inquiry throughout Canada. In this latter connection it should be pointed out that well-organized medicine was able to instruct its General Secretary to hold a watching-brief at all sessions of the Commission as it moved across Canada, while dentistry, which was poorly organized, had to be satisfied with presenting a brief towards the close of the investigation, although it is agreed that this brief was a masterpiece which did great credit to the committee and its able chairman, Dr. J. S. Lapp.

Dr. Stephen A. Moore, our President, pointed out in his very able editorial in the January "Journal," that it is the Canadian Dental Association which must deal with matters pertaining to such organizations as the Canadian Army Dental Corps, its status depending largely on the influence of that body; that with proper support much could be done by the Public Relations Committee and the Public Dental Health Committee of the C.D.A. which would benefit every dentist in Canada; also that we must be in a position to deal with dento-economic problems, and particularly with the question of Health Insurance, on whatever occasion these questions arise.

To you who say, *"What can the C.D.A. do for me?"* these statements, admittedly, are just general observations and mean very little from an individual standpoint. We wish to point out, however, that at present, whether you are cognizant of it or not, you are paying into our national association the sum of approximately eight cents a month, and until recently only half that amount. As a result of this small investment you have had your interests looked after in a remarkable way, in that the matters already referred to in this article and in previous articles have been dealt with, although not perfectly; and very much has been accomplished on your behalf, due to the work and sacrifice of many of your confrères, under the direction of our National Association, weak though it may be. For this eight cents a month you have received also twelve monthly copies of our official journal, a journal which though yet in its infancy is growing, and contains many articles during the year, any one of which is worth much more to you in giving helpful information than the entire yearly investment which you have made towards National Dentistry. To allow all this to fail would seem incredible.

Now what is urgently needed is that you should agree to contribute, at least *ten cents a week instead of eight cents a month* to an investment which would bring substantial financial returns per week to most of the dentists in Canada. This would ensure the continuance of the "Journal" and would allow for improvement. It would mean that we would have a secretary

and an assistant who could devote their entire time to the interests of the profession. We could be constantly informed of legislative problems which affect us. To have the tariff lowered on even a few of our supplies would pay our membership fees many times over. We would have someone who could make a thorough study of dento-economic problems and be able to represent us efficiently if, and when the government demands action.

Moreover, such an officer could visit the towns and cities in which we practise and conduct or direct a survey of the dental conditions under which we work, and from these observations suggest plans and procedures which would definitely revolutionize the practice of dentistry in many sections. I am sure that many of you would be surprised to know just what are the present conditions governing the practice of dentistry throughout this country. We crave for many of our fellow-practitioners throughout Canada a higher standard of living which can be accomplished only by a higher standard of practice. These conditions can be corrected and improved only by a thorough study of our problems and by a powerful organization backing the local groups. The Canadian Dental Association should undertake this survey.

It is obvious that the dentist needs to be educated as to the conduct and the appeal of his office. Women of all ages and all classes have made great sacrifices for outward adornment and they are still making these sacrifices. The beauty parlour, with its fine surroundings, modern decoration, and pleasing atmosphere continues to prosper, and it does not hesitate to let the world know of its achievements. Too often these same women enter a dental office with foreboding, and instead of finding attractively decorated rooms, modern furniture and equipment, restful and efficient lighting, a cheerful atmosphere, a capable assistant and dentists dressed immaculately in white or some attractive colour, they find just the opposite and deplore conditions which made it necessary for them to enter such an unattractive place. A well-organized association could do a great deal to enlighten the profession as to how these conditions could be improved in order to make a greater appeal to the aesthetic sense of the patients.

We admit that the problem is not entirely on our side. The public must be taught to change its viewpoint in regard to the necessity of having a healthy mouth and well-kept teeth. Men and women, boys and girls, must be shown that dental health spells general health and that the natural colour in the cheeks, indicative of good health within, is infinitely more valuable and attractive than the artificial colour supplied by the use of cosmetics. They must be taught that this necessary service can be rendered in attractive surroundings, with little or no pain, and that the cheapest service is not the best, nor is it to be desired. At present there is a crying need for this educational program. We are endeavouring to fill this need largely by individual contacts in our offices, which is an impossible task. No, we cannot reach our goal by this means. A national program must be evolved whereby this

education can be accomplished *en masse,* by means of the press, the radio, lectures, moving pictures of an educational type, health campaigns, essay and poster contests, and by many other legitimate methods. How can such a program be undertaken by any other group than our National Association? How worth while such an undertaking would be! It seems evident that if the dental story were told in as convincing a manner as many other groups are telling their story, that not only would it be a great blessing to the citizens of Canada but the dentists, likewise, would reap a rich reward. Is not such a prospect well worth the gamble of investing ten cents a week in the hope that at least some of these goals might be reached?

It is no doubt placing the cart before the horse to say that we will pay ten cents a week and then instruct our officers to accomplish what they can with the amount of money at their disposal. A much better way would be to instruct our officers to undertake a certain progressive, well-arranged program and carry it out to the best of their ability, and then we should be prepared to support it financially, as well as in every other way, in order to achieve great things for dentistry.

In a recent issue of "Lilliput" it is stated that fish do not know of the existence of the English Channel. "The study of fish migration shows that in their annual journey from the Atlantic into the North Sea, fish still take the long route up the west coast of Ireland, around the north of Scotland, and straight down the east coast, following, by instinct, the path taken by their ancestors many thousands of years ago, when Britain was still part of the Continent." Are we going to act in the same way by following precedent and refusing to move forward into new fields of opportunity?

Conditions are changing rapidly. Premier Chamberlain, speaking in his native Birmingham a few months ago, said that the "terrible burden" of re-arming was "bound to pull down the standard of living for a generation to come" but it was "essential" to go on. "We have no choice in the matter." Leon Blum, when he was premier of France, made a similar pronouncement. Can one be sufficiently optimistic to hope that seven billions of money can be spent on this continent in the near future, for "pump-priming" and tax-payers not be required to pay for it, eventually, by a lower standard of living? How different it would be if this money were being spent on "services" for humanity! This condition will, of necessity, affect dentistry. The public must have shelter, food and clothing, and by way of recreation, some entertainment. Radios, automobiles, numerous electric appliances are now considered necessities, and dental fees must come out of the income which people have allotted for all their supposed needs. Are we going to fight each other for what dental work is available under these depressing conditions? How vastly better it would be if we were willing to organize and co-operate and thus bring order out of chaos!

We know that such movements take time to develop, but, on the other hand, the need is urgent. In this case it is you, reader, who must act if any

rapid progress is to be made. We assure you that your "Provincial Board" will do just what you desire in matters of this kind—surely a most obvious conclusion. If the Board feels that you are indifferent or opposed and are unwilling to make this investment, nothing will be done. On the other hand, if it is felt that the dentists of Canada have at last become conscious of this urgent need, and are determined to take this forward step, action on the part of the Boards will at once be taken. Will you not sit down and write without delay to your Provincial Board, indicating that in your opinion the time has arrived for something tangible to be done to place the Canadian Dental Association upon a firm foundation, so that it may formulate and proceed to carry out immediately a workable and efficient program.

We would be neglecting a most important matter in discussing the problem of "Why a Canadian Dental Association?" if we did not stress the thought that we are living in troublous times. Man does not know which way to turn, or if he does know, apparently he will not turn, but insists upon muddling through by himself, entirely ignoring God. This is a catastrophe, but nevertheless a fact. As a result, the most prominent executives have lost confidence in their ability, and even governments tremble. We will have to face problems from time to time, which have never been faced before, and these problems will differ according to the location in which they arise. What concerns the dentists of one province today may well concern those of other provinces tomorrow and such concern affects you, wherever you may be practising, and regardless of how secure you may feel yourself to be at the present time. To be prepared for all contingencies, in so far as that be possible, is surely the part of wisdom; so let us get behind our National Association and give it a chance to vindicate its existence.

EDITOR'S NOTE—*A letter has just been received from a former Canadian dentist, Dr. W. G. Campbell, of West China Union University at Chengtu, Szechwan, enclosing a cheque for $6.00 as a subscription to the Journal of the Canadian Dental Association and in support of our Canadian Association. Dr. Campbell expresses his pleasure that the Canadian provinces are at last seeing their way clear to support their National Organization. If all our Canadian dentists living at home would take the interest in Canadian National dental affairs that is being taken by Dr. Campbell in West China, our financial troubles would be solved.*

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## BOOK REVIEW

**The Technique of Stainless Steelwork in Mechanical Dentistry,** by G. H. Siddle.

Cloth, 86 pages, 33 illustrations. Published by Henry Kimpton, 263 High Holborn, W.C.I., London. Price, 5/- net.

The author assumes that his readers have a fairly sound knowledge of the general principles of swaged metal plate work and from this, endeavours to introduce them to various types of the stainless steelwork, claiming many advantages for it when properly produced. A short chapter is included on chrome-cobalt alloy (Vitallium), the information on this metal being supplied by Messrs. Krupp, of Essen, Germany.—*Kenneth M. Johnson.*

# NEWS FROM THE PROVINCES

*SASKATCHEWAN:*

**Dr. Harry S. Thomson Visits Regina**

On April 19 Dr. Harry S. Thomson, Field Secretary of the Canadian Dental Hygiene Council, visited Regina, while on his annual trip to Western Canada. Dr. Thomson interviewed the Department of Health of the Saskatchewan Government regarding the continuance of Public School Clinics which have been held in a large number of schools in the drought areas of the Province for several years. These clinics have been under the direction of the Department of Health of Saskatchewan, and supported by that Department, together with the Canadian Dental Hygiene Council, the Council of the College of Dental Surgeons of Saskatchewan and the School Boards where the clinics have been held. It was felt that the immensely valuable services thus rendered to a large number of school children up to fifteen years of age, fully warranted their continuance while present conditions existed.

Dr. Thomson also discussed with the Department of Health the program which is being instituted as a research scheme for three years, whereby dental services are being provided for children over fifteen years of age in the High Schools of certain districts in the Province. The children and young people, in the High Schools chosen, will receive a thorough dental examination, which together with their general health and progress in school will be recorded. All dental defects are to be corrected and their general health and educational progress carefully noted at the end of the three year period. This program is to be supported by the Department, the Canadian Dental Hygiene Council and the Dental Health Educational Committee of the Saskatchewan Dental Association.

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**Regina Dental Society Guests at Moose Jaw**

About twenty members of the Regina Dental Society were guests of the Moose Jaw Dental Society at a clinic and dinner held in the Grant Hall Hotel, Moose Jaw, afternoon and evening, April 15. Dr. W. Fraser Smith, Regina, assisted by Dr. A. J. Brett, Regina, gave a very comprehensive clinic on taking impressions for full dentures, using a modified Stansbury technique. Dr. Brett introduced the subject, giving a brief résumé of the various full denture impression techniques used during the past twenty years. He also acted as a patient for Dr. Smith, showing in his own mouth the results of Dr. Smith's technique. The splendid clinic given by Dr. Smith demonstrated clearly the value of post-graduate study and attendance at important conventions.

During the dinner which followed the clinic, Dr. A. M. Lowey, President of the Moose Jaw Society, presided, and a number of informal talks were given by members of both Societies.

*MANITOBA:*

**Winnipeg Dental Society**

At the April meeting of the Winnipeg Dental Society the following officers for the ensuing year were elected: President, Dr. C. O. Wood; Vice-President, Dr. D. King; Secretary-Treasurer, Dr. S. E. Greenberg. Drs. G. A. Buchanan and J. O. Brown are also members of the executive.

Dr. Brown presented the following report of a recent sporting event:—

"Members of the Winnipeg Dental Society fraternized on the ice in a late season Bonspiel held at the Granite Rink on March 16. Eight rinks competed in the 9 and 11 o'clock draws, while four rinks engaged in the final draw for the main and consolation events.

In the main event a ding-dong battle was decided on the last end when Dr. J. A. Bleakley scored over Dr. Roy Snyder to win. Dr. Bleakley's rink had Drs. John Tevendale, lead, Geo. McWilliams, 2nd, and P. E. LaFleche, 3rd. Dr. Snyder, skip, had Drs. Ben Toombs, H. Gorrell and B. Milne.

In the consolation event Dr. P. B. H. Wood, skip, with Drs. S. E. Greenberg, J. O. Brown and Stan Geddes defeated Dr. C. J. F. Jackson, skip, with Drs. H. Christie, J. Dow and E. Hilton."

*ONTARIO:*

**Dental Meetings in Northern Ontario**

"Fixed and Removable Partial Denture Prosthesis, with Special Reference to Diagnosis and Design of Appliances" was the subject Dr. R. J. Godfrey presented to the dental societies

in Northern Ontario from May 1-10. These lectures and clinics were arranged under the Extramural Service of the Toronto Faculty of Dentistry in co-operation with the Royal College of Dental Surgeons of Ontario.

Seven meetings were held as follows: North Temiskaming Dental Society at Timmins, the northern section of the South Temiskaming Dental Society at Kirkland Lake, the southern section of the South Temiskaming Dental Society at Haileybury, North Bay Dental Society at North Bay, Sudbury Dental Society at Sudbury, Sault Ste. Marie Dental Society at Sault Ste. Marie, and the Thunder Bay Dental Association at Fort William.

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### Dr. Walter E. Willmott Honoured

A complimentary luncheon is being tendered Dr. Walter E. Willmott during the Ontario Dental Convention in June. As many graduates of R.C.D.S. as possible are being contacted and invited to this function which is being arranged to honour an old friend. It is proposed to present him with a tangible token of the love and esteem of his legion of friends in dentistry.

Everyone who can is urged to come to the luncheon. Those who find it inconvenient to be present and would like to make a contribution, are asked to send from $1 to $5 to Dr. Charles McLean, 372 Bay Street, Toronto, who is acting treasurer for the committee. There is a large volunteer committee consisting of a representative of each year of graduation.

The luncheon will be held on June 7 at 12.00 o'clock at the Royal York Hotel, Toronto.

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### Class of 3T7

The members of 3T7 of Toronto and district held a very interesting get-together on March 25. After a bowling tournament at Christie Street Recreation and Bowling Club, the party returned to Lantern Tea Rooms where speeches were given by former class presidents, Dr. McKeown, of Ottawa, and Drs. Morningstar, Smith and Mueller, all of Toronto.

Plans were laid for a golf tournament in the summer in or around Toronto.

Dr. Thomas Cowling, of the Faculty of Dentistry, Honorary President of the Class, gave a very interesting and amusing talk which brought to a close a most pleasant evening.

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### Dental Building for Ottawa Dentists

The Ottawa Journal of March 17 stated that a new dental building, costing $200,000 would be erected in Ottawa in the spring, if plans materialize. It will be erected primarily for the accommodation of the dentists of Ottawa, although one floor will be given over to doctors' offices.

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### Class of 1914

The Class of 1914 will hold a reunion dinner during the Ontario Convention on Monday, June 5. Members of the class are asked to communicate with the President or Secretary.

E. Harold Campbell, *President,* 171 Yonge Street, Toronto.

Irvin H. Ante, *Secretary,* Medical Arts Bldg., Toronto.

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### Toronto Dental Nurses' Alumnae Association

The regular monthly meeting of the Dental Nurses' Alumnae Association took place on April 11 at the Faculty of Dentistry, Toronto. President, Miss Dorothy Collett, presided over the business meeting and at its close Miss Nan Braidwood, a Past President of the Association and a bride-elect, was presented with an engraved silver plate.

Dr. R. G. Ellis of the Dental Faculty staff, who spent some months last summer at Aklavik, Alaska, showed motion pictures of his trip with running comment describing his experiences.

Refreshments were served at the close of the meeting.

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### Hamilton Dental Society

New officers announced for 1939-40 are as follows:—

President—Dr. C. T. Mason.

Vice-President—Dr. C. T. Moyle.

Secretary—Dr. R. F. Flach.

Treasurer—Dr. D. E. Shultis.

Directors—Dr. W. G. Foser, Hamilton, Dr. L. J. Easter, Dundas.

Chairman of Program Committee—Dr. A. R. Poag, Hamilton.

### London Dental Society

The London and district golf tournament will be held at the Highland Golf Club, Thursday, June 1st, 19 holes medal round. Come along and have some fun. Send your entries to Dr. F. F. Baker, Huron and Erie Building, London, or register at No. 1 tee, June 1st, 1 P.M.

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### Honour Dr. J. L. Stewart, President of the Ontario Dental Society

Members of the Hamilton Dental Society, at their annual meeting held at the Royal Hamilton Yacht Club, on Tuesday, April 18th, did honour to an outstanding member of their society. Dr. Stewart was presented with an address and a silver tray, suitably engraved, by Dr. Fred Williamson of Hamilton.

There were a number of guests present from various points, some of whom were:—Dr. S. A. Moore of London, President of the Canadian Dental Association; Dr. R. S. Woollatt, Dr. G. V. Morton, Dr. Ed Paul, Dr. E. A. Grant, Dr. E. T. Guest and Dr. F. J. Conboy of Toronto, all colleagues on the Board of Governors of the Ontario Dental Association; Dr. E. Sparks of Kingston, from the Eastern Ontario Dental Society; Dr. H. W. Hoag and Dr. R. W. Hoffman of the Toronto Academy of Dentistry; Drs. J. Blair, D. J. Ferguson and H. Windrim of London Dental Society, and Dr. Claude Nelson of St. Catharines, a member of the Board of the Royal College of Dental Surgeons of Ontario.

Dr. Stewart has been an enthusiastic and progressive worker in our profession for many years and this gesture of esteem and goodwill is indeed well merited.—*T. R. M.*

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### Class of 1919

The Class of 1919 will hold a Re-union Dinner during the Ontario Convention on Monday, June 5, 1939. Members of the Class are asked to communicate with the President or Secretary.

President, Dr. J. C. MacLaurin, 222 Queen Street, W., Toronto; Secretary, Dr. Harold W. Hoag, 240 Danforth Avenue, Toronto.

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### Dr. and Mrs. T. Henry Married 50 Years

Dr. and Mrs. Thomas L. Henry, of Oshawa, celebrated their golden wedding anniversary on March 28.

Dr. Henry was graduated from the Philadelphia Dental College at 20 years of age and practised in New York for one year and on his return to Ontario was graduated from the R.C.D.S. He retired from practice eight years ago.

*QUEBEC:*

### Mount Royal Dental Society

Dr. Silverstone of New York was the guest clinician appearing before the Mount Royal Dental Society at the March meeting held at the Mount Royal Hotel. Dr. Gerald Franklin, the President, was in the chair.

Dr. Silverstone gave an afternoon and evening lecture on Mouth Rehabilitation. His Friday lecture and clinic was followed by a special course of instruction, to a limited number of members, on Friday and Saturday. His course consisted of carrying through a complete case for a patient. The members were unanimous in stating that this was one of the finest demonstrations ever held before the Society.

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### Montreal Dental Club

Dr. (Sandy) MacGregor of Toronto was the guest speaker at the March meeting of the Montreal Dental Club held in the club rooms. Dr. MacGregor's topic, of course, was "Children's Dentistry," and as usual his audience enjoyed every moment of his talk, as Dr. MacGregor's audiences always do. The terms Children's Dentistry and Dr. (Sandy) Mac Gregor have become synonymous in Canadian Dentistry. No matter how often one listens to Dr. MacGregor he leaves his hearers with the feeling that they have acquired added inspiration.

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### Montreal Dental Nurses and Assistants

Dr. Roger E. McMahon addressed the members of the Montreal Dental Nurses and Assistants Association in their club rooms, in the Medical Arts Building, on April 4. The subject of his address was "Sterilization and Post Operative Treatment." There was a large attendance and the address was fully appreciated.

*BRITISH COLUMBIA:*

**Vancouver Dental Society**

Gold Foil was the topic of the Vancouver Dental Society's monthly meeting. Dr. Harold Cline presented a very interesting paper, fully covering the advantages and instrumentation of foil technique. "A good foil operator is always a good general operator because of the positive steps necessary for insertion, thereby making all types of preparations definite and positive with the minimum instrumentation."

Several practical cases were shown, chiefly Class 5. These beautiful restorations, with pink healthy gum tissues, created a desire by all to be able to do the same type of work.

Dr. Walter K. Sproule demonstrated the application of the rubber dam. This is a subject that is worthy of a paper because with the new technique of placement the soft tissues are not injured as formerly and more accurate preparations are made with less effort and in a shorter time.

Dr. William Miller displayed large, beautifully-mounted, carved plaster teeth with all classes of cavity preparations for gold foil, showing how extension for prevention is made with less destruction of tooth tissue as well as preserving the aesthetics.

The Ferrier Gold Foil Club of Vancouver has made remarkable strides, as their operations and clinical displays have shown.

Gold foil, when properly inserted, is still the supreme restoration for restorative dentistry.

**Dental Clinic of Esquimalt**

The preventive dental clinic, under the auspices of the Esquimalt Rural Nursing Service from January 16 to February 9, was a great success. The object of the clinic was to provide complete dental care for children, with the exception of gold work and extractions, at a nominal cost to the parents.

The Provincial Board of Health was responsible for the dentist and materials and the E.R.N.S. provided the organization, place for treatment and the necessary assistants.

134 children of the district had their teeth put in good shape with an average of 6.7 operations per child.—*Victoria Times.*

*ALBERTA:*

**Calgary Dental Society**

The Calgary Dental Society held its monthly meeting at the Renfrew Club, March 13. Following its regular practice, a scholarship of $50.00 was voted to the University of Alberta, Department of Dentistry.

Dr. L. T. Janes, President, and Mr. Blair Patterson, Solicitor, of the Alberta Dental Association, were visitors at the meeting. They discussed at length, together with Dr. A. M. Palmer, Calgary representative to the Board, the private bills being introduced in the legislature, and the proposed new Dental Act. Since that time, the private bills have been withdrawn, and a bill to introduce the new Act has been presented to the legislature at Edmonton.

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# EMPIRE NEWS

*GREAT BRITAIN:*

**Dr. J. Menzies Campbell Honoured**

Canadian dentists will be interested to learn that one of our British Correspondents, Dr. J. Menzies Campbell (himself a graduate in Dentistry of U. of T.), on demitting office as President of the West of Scotland Branch of the British Dental Association, was elected President of the Odonto-Chirurgical Society of Scotland. This latter Society (founded on 13th March, 1867) is the oldest dental society in the world, still functioning under its original title.

**Annual Meeting of the British Dental Association**

The Annual Meeting of the British Dental Association will be held at Newcastle-upon-Tyne, July 31—August 4, under the presidency of Mr. T. R. D. Walkinshaw. Arrangements have been made for some very interesting papers and demonstrations for which excellent accommodation will be provided in King's College.

**Death from Swallowing Foreign Body**

A case which was reported in a recent issue of the British Medical Journal of a child of

3 years of age who died as a result of a halfpenny becoming lodged in the oesophagus emphasizes once more the necessity of having a radiographic examination made immediately in all cases where there is reason to suppose that a foreign body has been swallowed. From the details of the case it seems clear that had such an examination been made promptly the coin could have been removed relatively easily and the child's life saved.—*British Dental Journal.*

### Action for Damages

A case of particular interest to the dental profession has recently been heard in a County Court. It is one in which a patient brought an action for damages against a dentist in which it was claimed that there was negligence on the part of the practitioner concerned. The claimant visited the dentist to have a tooth extracted and the dentist, in the course of giving an injection, broke the needle. The needle was not recovered but the dentist quite properly arranged for the patient to go to the local hospital the next day. The needle was left *in situ* for nearly six years and was subsequently removed in five separate pieces. The dentist in giving evidence stated that the hospital medical authorities had advised that the needle should be left alone as it would give no trouble. He was of the opinion that the tissue would have absorbed the needle in another twelve months. He had carried out the injection properly and could give no reason why the needle broke unless it were a faulty one. He denied negligence in any respect. The Judge in deciding for the dentist stated that he had found no negligence on his part. —*Br. Den. Jour.*

## *AUSTRALIA:*

### 1939 School Dental Essay Competition, March 24, 1939

1. All children attending public, primary or high schools in New South Wales are eligible to compete.

2. There is no entrance fee.

3. Essays must not exceed 800 words, and must be written at school, under teachers' supervision, on Friday, March 24, 1939.

4. There are three grades in this competition, as follows:

(a) *Pre-Leaving Certificate Standard.*

*Essay Title*: "Sound Teeth—An Asset and a Responsibility." 1st prize, £5. Five prizes of £1 each.

(b) *Pre-Intermediate Standard.*

*Essay Title*: "Improving the Health of Our Teeth." 1st prize, £5. Five prizes of £1 each.

(c) School dental examination competitors are required to answer three questions out of six, there being two grades:

(1) *Fourth Class Standard.* 1st prize, £1. Eight prizes of 10s. each.

(2) *Fifth and Sixth Class Standard.* 1st prize, £1. Eight prizes of 10s. each.—*The Dental Journal of Australia, March,* 1939.

## *SOUTH AFRICA:*

### Nutrition Problem

E. H. Cluver, M.A., M.D., D.P.H., Pretoria, read a paper on The Nutrition Problem in South Africa before the South African Medical Congress last September. The following is a summary of his paper which appeared in the South African Dental Journal:—

That an alarming amount of malnutrition exists among the non-European and also the European population of the Union is now generally recognized. Its extent is not yet accurately known because of the fact that no complete survey has hitherto been undertaken. Such a survey is now in progress. But local surveys and an accumulation of clinical evidence from various parts leave no doubt as to the seriousness of the position. The malnutrition appears seldom to be the result of crude starvation. It is due to the shortage and relatively high cost of the protective foods. This results in the bulk of the poorer sections of the population subsisting largely on cereal-starch short of protein, minerals and vitamins.

The problem facing the country is that of supplying these people, and particularly their children, with adequate amounts of protective foods, viz., dairy products, eggs, meat, vegetables and fruit.

The methods available for dealing with this problem include: raising of wages; dietetic education; provision of free or subsidized food; agricultural improvement.

# GENERAL NEWS

### Webster-Seccombe Memorial Funds

The following is a list of the subscribers to the above Funds:—

ONTARIO

TORONTO—Drs. G. A. C. Adams, T. A. Alstad, H. W. Anderson, P. G. Anderson, I. H. Ante, W. F. Armstrong, J. J. Armstrong, C. W. Asselstine, Jos. H. Atkins, A. B. Babcock, F. N. Badgley, G. E. Balfour, J. C. Bansley, H. G. Bean, G. D. Beierl, S. Berrin, E. G. Berry, W. A. Black, H. C. Bliss, M. G. Bond, J. A. Bothwell, R. M. Box, M. G. Boyes, L. F. Boyle, R. A. Bradford, R. C. Bregman, W. W. Breslin, S. Breslin, F. G. Brethour, C. E. Brooks, A. J. Broughton, R. Brown, Frances Marita Burnet, Prof. G. C. Cameron, Drs. E. H. Campbell, W. D. P. Cavanagh, W. L. Chalmers, A. D. Childerhose, Harold Clark, C. H. Clarkson, F. L. Cole, F. L. Coleman, E. E. Colley, F. J. Conboy, H. R. Conway, S. Copeland, H. M. Corlett, C. A. Corrigan, L. M. Coughlin, W. A. Cowan, Thos. Cowling, N. S. Coyne, J. T. Coyne, R. R. Crawford, W. A. Crich, S. S. Crouch, T. A. Currie, W. A. Dalrymple, W. G. Davis, Lloyd Davis, L. R. Davison, T. W. Dawson, A. O. Derbyshire, W. F. Dewar, J. A. Dietrich, F. W. Doan, W. J. Dolson, L. D. Drew-brook, J. H. Duff, R. Dunlop, D. B. Dyment, M. L. Dyment, A. W. Ellis, R. G. Ellis, G. Emmett, E. H. Ewing, Charles Feader, R. M. Findlay, R. E. Fisher, G. V. Fisk, F. A. Flora, R. W. Freestone, J. C. Fullerton, W. Garard, B. D. Garfield, E. L. Gausby, R. J. Godfrey, A. H. Golden, A. Gott, H. E. Gourlie, G. Gow, T. L. Granovsky, E. A. Grant, J. B. Greer, G. W. Grieve, J. H. Griss, L. M. Grose, W. P. Gruer, H. Halderson, I. L. Hamil, G. C. Hare, P. Harrington, K. R. Harris, L. D. Harris, M. Harris, W. G. Harron, Robert Haslitt, S. J. Hellen, W. R. Hendry, A. E. Higgins, Wm. J. Hill, J. A. Hillier, J. D. W. Hindson, W. L. Hipwell, H. W. Hoag, H. J. Hodgins, T. G. Hollingshead, E. W. Holmes, W. T. Holmes, A. S. Holmes, E. M. Honey, S. J. Hopkins, A. M. Hord, H. A. Hoskin, C. G. Hough, F. W. How, W. LaV. Hugill, F. C. Husband, S. M. James, J. H. Johnson, C. L. Johnston, H. M. Jolley, F. H. Jones, J. E. Kay, B. P. Kearney, A. J. Kennedy, W. J. Kerr, J. B. King, G. Kingman, G. Knapp, R. G. Knowles, L. F. Krueger, Jacob Kreutzer, J. Landau, H. Landsberg, V. H. Large, S. J. Lesco, S. W. Leslie, H. E. Leslie, H. D. Leuty, A. Lieberman, J. C. Lindsay, A. Lipson, J. C. Livett, W. J. M. Lloyd, H. G. Lloyd, L. S. Lockhart, G. W. Long, F. M. Lott, R. P. Lowery, G. W. Lyons, W. W. Macdonald, S. A. MacGregor, A. W. MacKay, D. L. Mackenzie, J. H. Maitland, Helen J. Manchester, T. L. Marsh, T. R. Marshall, R. J. Marshall, F. Martin, A. D. A. Mason, H. Mercer, I. J. Metcalfe, S. A. Milburn, G. T. Mitton, S. Model, G. A. Morgan, G. V. Morton, K. F. Mueller, F. O. H. Murta, C. F. McCartney, A. J. McDonagh, J. M. McLeod, K. N. McVicar, G. D. McVicar, E. J. Norman, W. O. Nursey, T. H. O'Connor, L. B. Oiffer, G. E. Oldham, B. M. Ott, L. Parr, A. O. Parry, J. G. Paterson, C. LeV. Pattison, E. W. Paul, Gordon S. Paul, E. A. Peaker, C. E. Pearson, J. G. Perkin, J. H. A. Peters, W. W. Philp, J. G. Pilkey, J. F. Porter, E. J. Pratt, W. F. Rattle, S. Raxlen, Harvey W. Reid, W. R. Reynolds, J. E. Rhind, L. F. Riggs, E. F. Risdon, H. Rivkin, H. C. Roach, H. G. Robb, H. M. Robb, G. A. Robinson, M. W. Rockman, Leonard Rollaston, W. F. Roper, J. F. Ross, H. A. Ross, D. N. Ross, C. C. Rous, J. Ruby, E. A. Sadleir, L. J. Saunders, B. Schaffer, T. N. Scott, L. Sharpe, J. M. Sheldon, J. A. Sherman, G. R. Sidenberg, S. Simon, M. L. Simon, G. A. Sirrs, L. G. T. Smith, C. A. Snell, C. W. Soules, W. W. Speers, R. J. Stone, S. Strauss, H. A. Swales, W. G. Switzer, D. M. Tanner, J. P. Tarshis, N. B. Temple, Henry A. Thompson, Harry S. Thomson, R. D. Thornton, J. E. Tilson, W. G. Trelford, C. I. Treadwell, T. C. Trotter, W. C. Trotter, R. L. Twible, W. M. Twible, M. G. Vair, E. C. Veitch, J. E. Verth, A. J. Vince, E. Wachna, H. B. Walker, R. R. Walker, H. G. Walton-Ball, R. G. Ward, H. N. Wilkinson, Jos. E. Wilkinson, C. H. Williams, W. E. Willmott, W. F. Ghent Wilson, C. B. Wilson, Harry Wilson, V. S. Wilson, H. Winkler, O. A. Winter, L. M. Wintrope, W. J. Woods, R. S. Woollatt, R. A. Wright, W. M. Wunder, H. L. Yack, H. Zack, M. Zimmerman.

NEW TORONTO—Dr. C. O. Lennox.

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A. Provost, A. Slone, A. V. Summers, D. D. Wilson.

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FORT FRANCES—Drs. H. G. M. Ayre, C. F. Garland, Benj. Reeves, H. W. Reeves.

PETERBORO—Drs. Alex. H. Allen, E. M. Crough, C. H. Fulford, R. C. Honey, H. J. Long, J. E. Middleton, A. M. Weldon.

BRANTFORD—Drs. F. Britton, M. A. Marling, J. H. Moyle, W. W. Race, H. F. Smith, F. J. Wentworth, J. R. Will.

WOODSTOCK—Drs. J. J. Brown, A. H. Wilson.

GUELPH—Drs. G. P. Britton, D. M. Davison, D. M. Foster, L. R. Garvey, R. Hillis.

OWEN SOUND—Drs. C. J. Baxendale, H. A. Hartford, G. H. Holmes, H. B. Legate.

OSHAWA—Drs. H. C. Arnott, R. E. Cox, S. J. Phillips, M. G. Trewin.

WINDSOR—Drs. O. Baker, J. M. Deans, F. J. Stodgell, E. C. Young.

STRATFORD—Drs. H. W. Baker, J. A. Boyd, C. L. Grant.

SUDBURY—Drs. R. L. Des Rosiers, F. N. Downe, V. S. Fournier, F. C. Fraser, M. V. J. Keenan, T. O'D Legge, F. J. McGarry, I. G. G. Polack.

BROCKVILLE—Drs. I. F. Calder, R. P. Markle, A. E. Shaver, W. H. Woodrow.

GALT—Drs. W. Burnet, T. F. Campbell, James Durran, E. V. Elliott, G. L. Prestien.

CHATHAM—Drs. J. M. Campbell, A. A. Hicks, I. V. Rumball, G. P. Taylor.

ORILLIA—Drs. J. L. Anderson, F. Hinds, W. C. Kennedy, W. M. Seymour.

MOUNT FOREST—Dr. G. P. Allen.

WARKWORTH—Dr. H. S. Allen.

KENORA—Drs. E. C. Apps, C. N. Schnarr.

COBALT—Dr. E. F. Armstrong.

IROQUOIS—Drs. W. J. Armstrong, C. T. McGahey.

PORT CREDIT—Dr. H. G. Armstrong.

PORT DOVER—Dr. I. P. Asselstine.

MILTON—Dr. F. E. Babcock.

CARLETON PLACE—Dr. Wm. F. Baird.

STOUFFVILLE—Drs. E. S. Barker, Neil C. Smith.

NAPANEE—Dr. H. J. Beattie.

PARIS—Dr. G. W. Bell.

ESSEX—Dr. A. E. Benson.

CAYUGA—Dr. M. R. Billings.

FERGUS—Dr. A. M. Blair.

IROQUOIS FALLS—Dr. A. A. Boyd.

ST. CATHARINES—Drs. E. R. Boyle, J. E. Longley, J. F. O'Flynn, J. M. Shultis, J. G. Somerville, W. W. Voaden.

BARRIE—Drs. E. L. Brereton, R. J. Sprott, J. F. Warnica.

COBOURG—Drs. W. A. Brett, W. J. Garland.

TIMMINS—Drs. I. T. Brill, C. R. Cushing, G. F. Mitchell, I. L. Scholes, C. Sullivan.

KINCARDINE—Dr. E. E. Bruce.

ZURICH—Dr. W. D. Bryce.

ACTON—Dr. A. J. Buchanan.

PORT COLBORNE—Dr. E. C. Butcher.

MARKDALE—Drs. L. G. Campbell, J. A. McArthur.

WALLACEBURG—Dr. A. G. Campbell.

KINGSVILLE—Dr. T. D. Campbell.

ORANGEVILLE—Dr. G. H. Campbell.

PAISLEY—Dr. D. D. Campbell.

WIARTON—Drs. A. M. Campbell, S. E. Foster.

FORT ERIE NORTH—Drs. G. K. Chapman, S. L. Oliver.

AYLMER—Drs. J. B. Clark, M. R. McNeill.

BIRCH CLIFF—Dr. W. C. Coristine.

STRATHROY—Drs. M. P. Corrigan, R. A. Willmott, G. W. Willmott.

EXETER—Drs. H. H. Cowan, G. F. Roulston.

HAILEYBURY—Drs. J. C. Crawford, W. R. Somerville.

THORNBURY—Dr. A. E. Cummings.

MARMORA—Dr. D. L. Curtis.

RODNEY—Dr. O. J. Davies.

OAKVILLE—Dr. F. M. Deans.

BEAVERTON—Dr. C. J. Devine.

BOWMANVILLE—Dr. J. C. Devitt.

CHESTERVILLE—Dr. R. G. Dodds.

PORT DALHOUSIE—Dr. C. C. Down.

PETROLIA—Dr. Jas. A. Drummond.

GLENCOE—Drs. A. S. Duncanson, R. J. Mumford.

KAPUSKASING—Dr. A. S. Dunn.

BELLEVILLE—Drs. R. H. Empson, J. R. Guthridge.

HUNTSVILLE—Dr. E. M. Fisher.

ALLISTON—Drs. W. A. Fleming, G. S. Smockum.

ST. MARY'S—Drs. L. L. Folick, I. J. Hance, G. L. Smith.

GANANOQUE — Drs. L. G. Fraser, J. C. Mabee.

BURLINGTON—Drs. W. G. Fraser, J. G. Walker.

NEW LISKEARD—Drs. W. J. Fuller, W. J. Linghorne.

CHAPLEAU—Dr. R. J. Gawley.

ST. THOMAS—Drs. W. N. Geddes, G. T. Kennedy, H. E. McKellar, C. B. Taylor, T. C. Trigger.

CALEDONIA—Dr. W. R. Godard.

FENELON FALLS—Dr. F. M. Graham.

Durham—Dr. J. F. Grant.
Sault Ste. Marie—Drs. E. A. Greco, W. D. McLeod, G. E. Westman.
Picton—Dr. D. W. Gullett.
Lancaster—Dr. W. J. Gunn.
Mimico—Drs. W. J. Hall, W. G. S. McLennan.
Meaford—Dr. Harry Hartman.
Midland—Drs. Robert R. Harvie, J. R. Parrott.
Fort Erie—Dr. A. L. Hays.
Kitchener—Drs. R. G. Hemmerich, H. F. Klopp, W. J. Ross, C. A. Rudell, C. E. Stoltz, W. R. Wilkinson, R. O. Winn.
Hespeler—Dr. C. K. Henderson.
Delhi—Dr. F. G. Hendry.
Lanark—Dr. E. H. Hewitt.
Dundas—Dr. A. N. Hill.
Walkerville—Drs. L. D. Hogan, L. J. Miller.
Ridgetown—Dr. M. J. Hooley.
Watford—Dr. G. N. Howden.
Whitby—Dr. H. J. Hudson.
Sarnia—Drs. A. E. Hughes, E. A. Storey.
Hagersville—Dr. R. G. Hyde.
Port Rowan—Dr. S. S. Ionson.
Collingwood—Drs. John H. Irwin, R. E. Robertson.
Lindsay—Drs. H. Irvine, C. H. M. Laidley, J. L. Sutton, R. C. Wansbrough.
Englehart—Dr. W. R. Jackson.
Sioux Lookout—Dr. D. P. Jeffries.
Dresden—Dr. W. T. Jeffs.
Millbrook—Dr. A. Jemison.
Niagara Falls—Drs. D. G. Johnstone, R. C. Moore, W. G. Thomas.
Cochrane—Drs. B. R. Jones, Wm. Murray.
Richmond—Dr. F. F. Kemp.
Milton—Dr. G. A. King.
Hawkesbury—Dr. H. H. Kirby.
Eganville—Dr. J. A. Lambertus.
Cooksville—Dr. L. W. Leake.
Sutton—Dr. H. G. Learoyd.
Renfrew—Dr. W. H. C. Ledger.
Port Perry—Dr. J. B. Lundy.
Smithville—Dr. W. C. Lymburner.
Goderich—Dr. L. M. Mabee.
Ripley—Dr. J. A. MacDonald.
Maxville—Dr. E. A. MacMillan.
Leamington—Dr. D. D. MacMillan.
Copper Cliff—Dr. W. G. Mahaffy.
Pembroke—Drs. J. O. Mandeville, M. J. Mulvihill, C. M. Purcell.
Deseronto—Dr. J. C. Marrigan.
Dundalk—Drs. H. G. Marshall, S. C. Sudden.
Waterdown—Drs. P. F. Metzger, R. J. Vance.
Seaforth—Dr. J. A. Munn.
North Bay—Drs. L. H. McCool, R. A. Torrance, B. F. O. Nott.
Lansing—Dr. W. W. McDowell.
Simcoe—Drs. W. M. McGuire, H. T. McLachlan, L. H. Smith.
Tillsonburg—Dr. H. L. McInally.
Blind River—Dr. D. K. McIntosh.
Clinton—Dr. H. A. McIntyre.
Ingersoll—Drs. H. B. McKay, A. W. Waring.
England—Dr. R. Gordon McLean.
Hensall—Dr. J. A. McTaggart.
Prescott—Dr. L. B. Nuttall.
Almonte—Dr. T. R. Paterson.
Tweed—Dr. W. A. M. Paul.
Amherstburg—Dr. E. R. Pearce.
Welland—Drs. K. McK. Phillips, G. A Sinclair.
Wellandport—Dr. H. V. Pogue.
Powassan—Dr. C. A. Porter.
Russell—Dr. P. B. Proudfoot.
Thornhill—Dr. M. J. Quigley.
Rockland—Dr. T. Regnier.
Preston—Dr. W. H. Renwick.
Campbellford—Drs. H. O. Richardson, O. C. Watson.
Sandwich—Dr. T. N. Robinson.
Wingham—Dr. G. H. Ross.
Bancroft—Dr. D. M. Rouse.
Smith's Falls—Dr. S. V. Saunders.
Merriton—Dr. W. Slater.
Cornwall—Dr. A. A. Smith.
Thessalon—Dr. Norman C. Smith.
Avonmore—Dr. W. M. Stevenson.
Schreiber—Dr. J. E. Thompson.
Westboro—Dr. F. L. Thompson.
Chesley—Dr. J. E. Truemner.
Arthur—Dr. N. P. Truemner.
Carleton Place—Dr. E. J. Walroth.
Stirling—Dr. C. F. Walt.
Shelburne— Dr. E. M. Wansbrough.
Port Hope—Dr. A. H. R. Watson.
Georgetown—Dr. F. R. Watson.
Sharbot Lake—Dr. W. A. Weatherhead.
Ridgeway—Dr. J. G. White.
Perth—Dr. E. H. Wilson.
Alvinston—Dr. P. P. Winn.
Arkona—Dr. R. G. Woods.
Beamsville—Dr. C. R. Wray.
Trenton—Drs. G. F. Wright, H. V. Wright.
Ladies' Auxiliary Academy of Dentistry, Toronto.
Hume Memorial Committee.
Oriental Club.
Board of Directors, Royal College of Dental Surgeons of Ontario.

ALBERTA

Calgary — Drs. P. G. Atkinson, B. J. Charles, J. W. Clay, J. H. Corbin, H. W. De Renzy, J. M. Dixon, E. M. Doyle, H. D. Duncan, H. L. Freeland, E. E. Groff, D. C. Haworth, E. J. Hesson, B. Johnson, C. B. Johnson, J. I. Kelly, W. H. Kennedy, O. A. Lyman, L. A. Maxwell, F. W. Murray, J. M. McCaffrey, R. R. McIntyre, A. M. Palmer, B. Powell, J. G. Pullar, E. H. Simmons, R. C. Thorpe, E. R. Upton, J. M. Warren, O. B. Whiteman, H. W. Wright, J. Zimmerman.
Edmonton—Drs. J. B. Carmichael, R. S. Decker, L. R. Dodds, C. E. Eastwood, G. A. Gemeroy, W. S. Hamilton, N. W. Haynes, G.

J. Hope, A. E. Jamieson, L. V. Janes, M. Kline, H. N. Knight, C. H. Lipsey, V. M. Lloyd, J. S. Lowther, L. D. MacLaurin, R. A. McCormack, Leslie McIntyre, M. A. McIntyre, D. R. McNabb, James McPherson, A. M. Revell, J. G. Roberts, R. A. Rooney, R. L. Scharff, G. B. Thurston, W. E. Webber.

LETHBRIDGE—Drs. L. T. Allen, J. E. Carson, W. F. Clark, M. P. Craig, C. M. Fletcher, G. H. Forbes, A. S. Fumerton, M. J. Gibson, J. S. Stewart.

MEDICINE HAT—Drs. M. L. Moore, J. D. Morrison, F. J. Netherton, A. E. Slack.

STETTLER—Drs. W. R. Aunger, A. E. Aunger.

INNISFAIL—Dr. C. J. Green.

BLAIRTOWN—Dr. M. B. Hoar.

PONOKA—Dr. S. M. Snedden.

## SASKATCHEWAN

REGINA—Drs. W. M. Blair, J. A. Brett, C. C. Clermont, G. E. H. De Witt, W. H. Dixon, Chas. Dixon, L. G. D. Fasken, B. I. Gitterman, Roy Johnstone, J. A. McGregor, J. E. Rheinhorn, W. Ross, C. C. Rowe, H. M. Schweitzer, Robt. Small, W. F. Smith, A. McG. Smith, F. S. Van Woert, C. H. Weicker.

SASKATOON—Drs. W. F. Handcock, J. R. Hoag, W. H. Ibberson, H. J. Kennedy, V. Little, M. J. MacDonnell, Newman, C. W. Parker, M. R. Parkin, T. I. Robb, A. Singer, F. E. Skinner, M. E. Webb, P. W. Winthrope.

YORKTON—Drs. L. V. Barnes, D. J. Brass.

SWIFT CURRENT—Drs. G. L. Cameron, W. B. Milburn, D. W. McCord, J. P. Whyte.

PRINCE ALBERT—Drs. J. A. Carriss, J. L. Connell, G. B. Howard, F. J. MacLean, W. G. Yoerger.

FOAM LAKE—Dr. R. H. Chant.

CANORA—Dr. S. R. Chodorcoff.

WEYBURN—Dr. A. J. Clark.

MORSE—Dr. E. R. Dobbs.

SHAUNAVON—Dr. J. E. Fraser.

LANGENBERG—Dr. C. B. Hallett.

GULL LAKE—Dr. O. Hart.

MOOSE JAW—Dr. W. W. Irwin.

MAPLE CREEK—Drs. A. A. B. Kenny, J. A. Stewart.

HUMBOLDT—Dr. J. C. King.

WINYARD—Dr. J. L. Magrath.

PONTEIX—Dr. W. C. Osborne.

KAMSACK—Dr. A. Rabinovitch.

ROLEAU—Dr. Rondeau.

CARNDUFF—Dr. O. R. Thompson.

ESTEVAN—Dr. J. E. Wright.

MELVILLE—Dr. W. L. Trueman.

## MANITOBA

WINNIPEG—Drs. C. J. Bannerman, T. N. Belden, A. H. Bernstein, J. H. Best, E. R. Bier, A. A. Bloom, M. Bowles, M. A. Bregman, O. Brewer, R. J. Bright, Douglas L. Brown, J. F. Brown, J. O. Brown, B. E. Brownlee, G. A. Buchanan, B. B. Cantor, N. C. Carmichael, L. G. Carson, S. H. Churchill, L. O. Cole, B. J. Curry, J. A. Dow, R. J. Dunsmore, P. A. Eckman, J. G. Elsey, I. B. Ezra, L. Finkle, E. Fitzpatrick, G. Frizell, M. H. Garvin, W. H. Geddes, J. M. Grahame, G. A. Grant, L. N. Green, S. E. Greenberg, J. H. Greenfield, C. J. F. Jackson, D. R. Jacob, J. A. Jobin, Kenneth M. Johnson, M. Kenchier, R. D. Kerr, M. C. Kobinsky, T. T. Kobinsky, P. E. La Fleche, H. J. Lawrence, D. G. Leckie, R. Luke, W. F. MacKenzie, H. J. Merkeley, W. A. Miller, J. G. Mills, Harold Mitchell, F. J. Moffatt, C. H. Moore, J. F. Morrison, W. R. Morrison, R. H. Murdock, A. C. McInnes, D. A. McKay, C. D. McLeod, C. S. McLeod, S. D. Posner, A. E. Proctor, J. Rice, W. J. Robb, S. W. Sarbit, R. W. Scott, M. R. Steen, J. E. Toole, H. Towe, C. M. Truman, H. R. Tweed, H. W. Tweed, M. Wachnow, F. E. Warriner, C. H. Weagant.

PORTAGE LA PRAIRIE—Drs. N. S. Bailey, W. Dalzell, J. Hurton.

MORDEN—Dr. G. H. Bray.

SOURIS—Dr. H. A. Croll.

DAUPHIN—Drs. A. D. McKee, C. S. Robertson.

BRANDON—Dr. F. S. Spiers.

Manitoba Dental Association.

## PRINCE EDWARD ISLAND

SUMMERSIDE—Dr. R. L. Noona.

CHARLOTTETOWN—Dr. A. W. M. Allan.

## BRITISH COLUMBIA

COURTENAY—Dr. F. H. Moore.

## BRITISH ISLES

GLASGOW—Dr. J. Menzies Campbell.

LONDON—Dr. Kenneth C. Campbell.

REMITTED BY MR. G. NORTHCROFT—Messrs. H. Brooks, W. L. Clark, J. P. Cocker, S. A. Deans, F. N. Doubleday, C. L. Endicott, J. Evans, G. Fawn, E. W. Fish, S. Hey, R. Hill, Miss W. M. Hunt, Mr. J. Haig Johnston, Mrs. Lindsay, Messrs. C. Lotinga, C. S. Morris, S. B. Newton, G. Northcroft, J. B. Parfitt, J. Lewin Payne, D. L. Rogers, A. E. Rowlett, Bertram Samuel, W. G. Senior, Miss H. Sherry, Messrs. J. C. Smyth, Everard Turner, T. R. D. Walkinshaw, Miss E. Wallace, Messrs. R. H. Warner, B. J. Wood, J. A. Woods.

## NEW YORK STATE

NEW YORK—Dr. J. C. Allan.

ROCHESTER—Drs. G. F. Edwards, W. J. MacDonald, M. J. McKinnon.

CORNING—Dr. H. A. T. Keenan.

GENEVA—Dr. W. S. Young.

MICHIGAN

Detroit—Dr. L. S. Godwin.

CALIFORNIA

Los Angeles—Dr. E. V. Humphries.

OHIO

Toledo—Drs. A. A. Kaplan, L. C. C. Winters.

Wadsworth—Dr. G. R. MacRitchie.

ILLINOIS

Chicago—Dr. B. L. Balasny.

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## FINANCIAL STATEMENT TO FEBRUARY 1st, 1939

### RECEIPTS:

| | | |
|---|---|---|
| **Ontario** | | |
| *698 Subscribers | $2,335.55 | |
| Hume Memorial Committee (bal. on hand) | 14.00 | |
| Oriental Club (bal. on hand) | 10.19 | |
| Ladies' Auxiliary Academy of Dentistry, Toronto | 25.00 | |
| Royal College of Dental Surgeons | 1,000.00 | $3,384.74 |
| (Collections $9.75) | | |
| (*—Four names are included in this list who subscribed $15.00 after the statement was audited.) | | |
| **British Columbia** | | |
| 1 Dentist | 10.00 | |
| (Collections .10) | | 10.00 |
| **Alberta** | | |
| 76 Dentists | | 187.00 |
| (Collections .10 Local exp. 20.11) | | |
| **Saskatchewan** | | |
| 62 Dentists | | 139.45 |
| (Collections .70) | | |
| **Manitoba** | | |
| 85 Dentists | 263.00 | |
| Dental Association of Manitoba | 137.00 | 400.00 |
| (Collections .40) | | |
| **Prince Edward Island** | | |
| 2 Dentists | | 10.00 |
| **Outside Canada** | | |
| British Isles 34 | 93.00 | |
| New York State 7 | 70.00 | |
| Michigan State 1 | 10.00 | |
| Ohio State 3 | 20.00 | |
| Illinois State 1 | 5.00 | |
| California State 1 | 5.00 | 203.00 |
| (Collections 2.22) | | |
| Total Contributions | | $4,334.19 |
| Bank Interest | | 13.50 |
| | | $4,347.69 |

### EXPENSES:

| | | |
|---|---|---|
| Paid by cheque: | | |
| Printing Stationery | 104.65 | |
| Office Supplies | 6.85 | |
| Postage and Telegraph | 121.75 | |
| Office Assistance | 9.40 | |
| | 242.65 | |
| Expenses Alberta Committee | 20.11 | |
| Bank Collections | 13.27 | 276.03 |
| Cash in Bank | | $4,071.66 |

W. E. Willmott, *Treas.*

## AUDITORS' REPORT

### Webster-Seccombe Memorial Funds

We have audited the books and vouchers of the Webster-Seccombe Memorial Funds and found the accounts exceptionally well kept. All subscriptions are listed, the totals are correct and there are proper entries and vouchers for all expenditures.

The gross receipts total $4,347.69, the expenses amount to $276.03, leaving the net donations at $4,071.66. Thirty-two subscribers for a sum of $107.00 designated that they desired their subscription to go exclusively to the Webster Fund and six for a total of $38.00 to the Seccombe account.

The money available for the Webster Memorial is $2,070.33, and the Seccombe Memorial $2,001.33.

*(Signed)* Fred J. Conboy,
*(Signed)* Harvey W. Reid,
Auditors.

February 10, 1939.

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### Letter from Dean, Faculty of Dentistry, University of Toronto

Dr. T. R. Marshall,
The Journal of the Canadian
Dental Association,
Toronto.

Dear Dr. Marshall:

We are enclosing the Conditions of the Awards of the Albert E. Webster and the Wallace Seccombe Memorial Scholarships, also the Switzer Memorial Key, and the Prizes donated by "Oral Health."

These passed the Senate of the University at their last meeting on Friday, April 14th, and now can be released for publication. I shall be pleased to have you publish any of this information that you may see fit in the Journal of the Canadian Dental Association.

As Chairman of the General Committee of the Webster-Seccombe Memorial Funds, I wish to express my appreciation of the generous response to this appeal. These scholarships are a worthy memorial to the lives of these men, both of whom have made great contributions to Dentistry in this country. The wide range from which these contributions were received shows in a very definite way the influence these men had on the dental profession. These memorials will, as the years pass, stimulate young men to strive to merit these awards. They will not only benefit them personally but will no doubt result in the development of knowledge which will be of value to the dental profession.

Fraternally yours,

*April 18, 1939.* *Arnold D. Mason, Dean.*

### Conditions of Award for the Albert E. Webster Memorial Scholarship

1. That there be established in the Faculty of Dentistry a scholarship to be known as the Albert E. Webster Memorial Scholarship, the annual value of which will be the interest on the sum in that respect deposited with the Bursar by the Central Committee of the Webster-Seccombe Memorial Fund.

2. That the holder shall be a member of the Fifth Year class who has completed the Fourth Year in this Faculty.

3. That the holder, having successfully completed the annual examinations of the Fifth Year, shall have obtained at least 66% of the marks given for the final written paper in the subject of Fifth Year Operative Dentistry, and shall have obtained the highest standing in Clinical Operative Dentistry.

4. That in the event of two or more students ranking for the scholarship, it shall be divided equally between them.

5. That should no award be made in any year, the amount not awarded shall be added to the principal.

6. That the scholarship shall be awarded upon the recommendation of the Faculty of Dentistry.

7. That the payment of the scholarship shall be made at the time of the announcement of the award.

### Conditions of Award for the Wallace Seccombe Memorial Scholarship

1. That there be established in the Faculty of Dentistry a scholarship to be known as the

Wallace Seccombe Memorial Scholarship, the annual value of which will be the interest on the sum in that respect deposited with the Bursar by the Central Committee of the Webster-Seccombe Memorial Fund.

2. That the holder shall be a member of the Fifth Year class who has completed the Fourth Year in the Faculty of Dentistry.

3. That the award shall be made to the student who, having successfully completed the annual examinations of the Fifth Year, shall obtain the highest standing in the subject of Preventive Dentistry.

4. That in the event of two or more students ranking for the scholarship, it shall be divided equally between them.

5. That should no award be made in any year, the amount not awarded shall be added to the principal.

6. That the scholarship shall be awarded upon the recommendation of the Faculty of Dentistry.

7. That payment of the scholarship shall be made at the time of the announcement of the award.

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**Conditions of Award for the Oral Health Theses Prizes**

1. The prizes shall be known as the First and Second Oral Health Thesis Prizes, and shall be of the value of $100 and $50, respectively.

2. The winners shall be students in the Faculty of Dentistry who have successfully completed the examinations of the Fifth Year.

3. The awards shall be made upon a thesis which shall be based on laboratory or library research, and which shall be completed during the student's Fifth Year.

4. To be considered for the award, a thesis shall have obtained at least 75 marks in the annual examinations.

5. All theses thus eligible for consideration shall be appraised by a committee consisting of the Dean and four or more members of the staff of the Faculty of Dentistry, appointed by the Dean.

6. This committee may, at their own discretion, give the candidates an oral examination.

7. Payment of the prize shall be made at the time of the annuoncement of the award.

8. Should no award be made in this session, the prize shall be available for award in session 1939-40, or in a subsequent session.

9. In the event of a tie, the amounts of the prizes shall be divided equally.

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**Conditions of Award for the Wallace Seccombe Prize for General Proficiency**

1. The prize shall be known as the Wallace Seccombe Prize for General Proficiency, and shall be of the value of $150.

2. The winner shall be a member of the Fifth Year class in the Faculty of Dentistry, who has regularly completed the Fourth Year of the course in this Faculty, who has successfully completed the annual examinations of the Fifth Year, and who has obtained an average of at least 66% of the total possible marks in the annual examinations of the Fifth Year.

3. The award shall be made upon General Proficiency, based on academic standing, personality, athletic activities, and extra-curricular interests; a maximum of 50 points being awarded for academic standing, and a maximum of 50 points being awarded for personality, athletic activities, and extra-curricular interests.

4. The students eligible for the prize shall be determined by a vote of the members of the Fifth Year class who completed the preceding year of the course in this Faculty. The vote shall be taken by secret ballot, without nomination. A ballot to be valid shall contain the names of five eligible members of the class.

5. The students so nominated by the votes of their fellows shall be appraised by a committee consisting of the Dean and four or more members of the staff of the Faculty of Dentistry, appointed by the Dean.

6. In the event of two or more students being considered to have equal standing so far as the prize is concerned, the prize shall be divided equally between them.

7. Should no award be made in this session, the prize shall be available for award in session 1939-40, or in a subsequent session.

8. Payment of the prize shall be made at the time of the announcement of the award.

### Conditions of Award for the W. George Switzer Memorial Award

1. That there be established in the Faculty of Dentistry a prize to be known as the W. George Switzer Memorial Award, in the form of a gold key or other token.

2. That the holder shall be a member of the Fifth Year class, who has completed the Fourth Year in the Faculty of Dentistry.

3. That the award shall be made to the student who, having successfully completed the annual examinations of the Fifth Year, shall be deemed by the clinical instructors in the subject of Prosthetic Dentistry, to have the greatest proficiency in Full Denture and Removable Partial Denture Prosthesis.

4. That the winner may accept this award in addition to any other prizes or scholarships he may hold.

5. That should the interest on the fund be insufficient to purchase the key, the capital amount shall be drawn on for the difference until it is exhausted.

*The Faculty desires to let any friend of the late Dr. Switzer have the privilege of having a part in this memorial. Contributions for the fund may be sent to the Secretary, Faculty of Dentistry, University of Toronto.*

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### Western Canada Dental Convention

The Western Canada Dental Society will hold its biennial Convention in Winnipeg, May 29-31, with headquarters in the Fort Garry Hotel. An unusually fine program has been arranged and the following guest speakers will participate: Dr. John B. LaDue, of Chicago, on "Full Dentures"; Dr. George A. Morgan, of Toronto, on "Surgical Procedures"; Dr. Edward J. Ryan, of Evanston, Illinois, on "Practice Management"; Dr. Stanley D. Tylman, of Chicago, on "Crown and Bridgework"; and Dr. F. J. Viner, of Omaha, Nebraska, on "Amalgam."

The ladies' program is being arranged under the convenership of Dr. Olive Cole and those who attend will have a most profitable and pleasant holiday.

Golf handicaps should be sent in to the Golf Committee and hotel reservations should be made at once, if these have not already been arranged.

### Income and Expense

In the coming year the estimated income of the A.D.A. is $325,000.00; of this amount the largest single source of revenue, $168,000.00, is from membership dues. The estimated expense for the coming year will be $340,000.00; the largest single item in this figure is $132,000.00 for expense of publishing the *Journal*. There is now a movement on foot to increase the A.D.A. membership dues. The A.D.A. spends almost $7.00 annually per member.

—*N. Y. Jour. of Dent., March, 1939.*

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### Report of Canadian Rheumatic Disease Association

Following the formation of this organization, it was decided that a survey should be made of the incidence of rheumatism among the population of Canada. A great deal of credit goes to the Metropolitan Life Insurance Co. and to Dr. N. L. Burnette, one of its staff, for the large number of comprehensive survey cards gathered for analysis.

The Department of Pensions and National Health, and the Dominion Bureau of Statistics used their special facilities for the tabulation of the immense mass of material. As a result a number of interesting facts emerge, from which the following are selected.

1. In round numbers the survey included 50,000 people in 10,000 families and revealed 2,000 cases of rheumatism in 1,800 families.

2. The survey indicates that in this large group, rheumatism becomes manifest under three definite conditions, namely,—maternity, trauma, and infection.

3. It is indicated that rheumatism resulting from trauma does not tend to become generalized.

4. Rheumatic disease is more prevalent in females than in males, but unmarried females have a lower rate than males. It appears to be the married women who raise the average for the females. In this connection a previous survey in the Civil Service of Canada is quoted as showing only one half as much rheumatic disease among female employees as among the males.

5. Early winter is the period of greatest frequency, and in chronic cases the period of greatest severity.

6. There were 2,000 cases of rheumatism among 50,000 people or one in twenty-five. Of those surveyed 195 had a history of scarlet fever at some time. 180 of this group or over 92%, were listed among the 2,000 who had a history of rheumatism.

To the dentist, who so frequently is consulted regarding dental sources of infection, the causes listed,—maternity, trauma, and infection, are of importance. To the writer it seems as though the maternity cause may be thought of in terms of trauma, infection and lowered resistance. This brings us back to trauma and infection, with trauma, it is stated in the report, mostly related to localized or specific locations.

—*John W. Clay, Calgary, Alberta.*

### Canadian Dental Association Research Committee

The Canadian Dental Association Research Committee desires to help any person who wants to do research on a dental problem. If you have such a problem and desire assistance, financial or otherwise, answer the questionnaire below and send it to the Secretary, Dr. Fred C. Husband, 12 Bloor Street East, Toronto, Ontario.

Name: .....
Address: .....
Degree: .....
Where graduated: .....
Post-graduate studies, if any: .....
Describe any research which you have done: .....
Make reference to any article you have published: .....
State in detail what your problem is: .....
Do you propose to carry on an investigation in conjunction with some institution?
If so, where? .....

—*Fred C. Husband, D.D.S., Secretary.*

### American Dental Association

The following is the membership of the American Dental Association:—

| | |
|---|---|
| Total Regular Members | 43,179 |
| Total Junior Members | 2,064 |
| Affiliate Members | 90 |
| Total | 45,333 |

—*Jour. A.D.A., March, 1939.*

### Second Annual Summer Postgraduate Course In Fixed Bridge Work New York University College of Dentistry

New York University College of Dentistry will offer its second annual postgraduate course in Fixed Bridge Construction for four weeks, mornings only, or for two weeks, full day, beginning June 5, 1939. The fee is $75. The course is limited to fifteen men.

For information and application blank, address the Office of the Dean, New York University College of Dentistry, 209 East 23rd Street, New York City.

### Mail Order Dentistry

In mid April Dr. E. C. Veitch of the Royal College of Dental Surgeons of Ontario and Dr. F. J. Conboy, Secretary of the Ontario Dental Association, acting on behalf of the legislation committee of the Canadian Dental Association, presented to the postal authorities in Ottawa facts regarding the menace of mail order dentistry. As a result of the conference the Department has issued orders as of May 2 withdrawing Canadian mailing facilities from the following companies—

The United States Dental Company, 1555 & 57 Milwaukee Ave., Chicago.

The Hod Laboratory Pr.-2, Hod Williams Bldg., Tampa, Florida.

It is believed that this action of the postal department will discourage this unscrupulous type of practice.

### Oral Hygienists in Palestine

Training Classes for Oral Hygienists or Dental Nurses are held regularly at the Straus Health Centre, Jerusalem. The Health Department of the Palestinian Government regard the classes with favour, taking the view that oral hygienists may be a great factor in the development of the country's school dental service, and at their suggestion candidates on passing the prescribed examination receive the degree of the D.N. (Dental Nurse).—*D. Mag. and Oral Topics, March,* 1939.

### American Association of Dental Schools

The meeting of the American Association of Dental Schools was held at Cleveland on March 20, 21 and 22. Dean Mason was the official representative of the Faculty of Dentistry, University of Toronto, and was accompanied by Drs. Lott, Krueger, Ellis, Godfrey and Kilburn.

### Medical Practice in Poland

Poland has passed a law regulating the practice of newly graduated physicians whereby for two years they may practice only in rural areas or in towns with a population of less than 5,000. The purpose is to relieve the congestion of physicians in the large centres. —*The Journal of the Florida State Dental Society, April,* 1939.

## IN MEMORIAM

The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**Frank J. Stowe,** of Toronto, Ontario, died suddenly from a heart attack on March 27th at his home, 463 Spadina Ave. He was in his 75th year and for more than half a century has practised dentistry in the same office.

Dr. Stowe was born at Mount Pleasant, Ontario. He was a son of the late Dr. Emily Stowe, distinguished as the first woman physician to practice in Canada and the late Dr. John Stowe who was a dentist. Dr. Augusta Stowe Gullen of Toronto is a sister of the deceased.

Dr. Stowe was a member of Yorkminster Baptist Church and a member of Zetland Lodge A.F. and A.M.

Dr. Stowe is survived by his widow, his sister, Dr. Stowe Gullen, two daughters, Mrs. J. N. Wilson and Miss Hilda Stowe and one son, Hudson J. Stowe.

▪

**George S. Martin,** of Humberstone, Ontario, aged 72, died April 17. He was graduated from the Royal College of Dental Surgeons, Toronto, and before moving to Humberstone a few years ago practised in Sudbury.

Dr. Martin is survived by his widow.

▪

**William S. Westland,** of London, Ontario, died suddenly March 21 from a heart condition. He was graduated from the Royal College of Dental Surgeons and later settled in London where he maintained a practice for more than thirty years. Ill health forced him to retire from active practice seven years ago. He was a member of Cronyn Memorial Church and the Scottish Rite. He formerly held the rank of lieutenant in the old Seventh Regiment, Fusiliers.

Dr. Westland is survived by his widow and two daughters.

▪

**John Albert Brennan,** of Montreal, Quebec, aged 44, died March 23. He was a son of Dr. Michael T. Brennan, of the University of Montreal and was graduated from this University in 1915, following which he enlisted in the Canadian Army Dental Corps. Following the War he returned and set up practice in Campbellton, N.B., but five years later, in 1923, he had to abandon dental practice as the result of a broken hip injury received overseas.

Dr. Brennan is survived by his mother, two sisters and two brothers.

▪

**W. F. Monkman** of the Vegreville district, Alberta, aged 85, died March 30 following a lengthy illness.

He was graduated from the Dental College of Anne Arbor, Michigan, and came to Vegreville in 1908, where he practised his profession until 1937, being then forced to retire on account of indifferent health. He was an energetic lodge worker, holding 32 degrees in the Masonic order, was a past master and life member of the St. John's Lodge of Vegreville, a member of the Scottish Rite of Edmonton and a member of the Al Hazar Temple of Calgary.

Dr. Monkman is survived by his wife, three daughters and one son.

## . . . SECTION FRANÇAISE . . .

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# *Programme du Cinquième Congrès des Dentistes de Langue Française de l'Amérique du Nord*

Nous vous présentons le programme du cinquième congrès de l'Association des dentistes de langue française de l'Amérique du Nord, qui aura lieu à Montréal, à l'hôtel Mont-Royal, les 8, 9, 10 juin 1939.

Vous constaterez que le comité d'organisation n'a rien épargné pour faire de cette réunion un événement de première importance.

Des films scientifiques, des conférences et des cliniques qui couvrent tous les domaines de la dentisterie, vous seront présentés par des autorités de la profession.

Des événements sociaux, qui vous procureront à vous et à votre épouse, l'occasion de rencontrer vos confrères et leurs compagnes, contribueront à vous faire vivre trois journées utiles et agréables.

## HORAIRE DES TROIS JOURNEES DU CONGRES

### JEUDI, LE 8 JUIN

AVANT-MIDI.

9.30 heures.—Inscription des congressistes et de leurs épouses au 9ème étage de l'hôtel Mont-Royal.

10.00 heures.—Salle dorée, au rez-de-chaussée. Ouverture officielle du congrès. Photographie du groupe des Congressistes et de leurs épouses.

11.30 heures.—Dîners-Conventums.

APRES-MIDI.

1.00 à 2.30 heures.—Salle de bal, au 9ème étage. Visite des exhibits commerciaux.
2.30 heures.—Au Normandie, au 9ème étage. Conférence par le docteur Antonio Barbeau.
2.30 heures.—Salle des Conventions, au 9ème étage. "Couche granuleuse de Tomes et les récidives de la carie" par le docteur Alcide Thibaudeau de Montréal.
3.30 heures.—Au Normandie. "Principales causes de litige entre dentistes et patients" par le docteur Ernest Charron de Montréal.
3.30 heures.—Salle des Conventions. "Articulation avec ou sans pression" par le docteur Adolphe L'Archevêque de Montréal.
4.30 heures.—Salle des Conventions. "La paradentose et le dentiste" par le docteur D. P. Mowry de Montréal. (Cette conférence sera donnée en langue française.)
5.30 heures à 6.30 heures.—Visite des exhibits commerciaux.
8.00 heures.—Salle Dorée (rez-de-chaussée). Banquet pour les congressistes et leurs épouses. Danse-cabaret à l'issue du dîner.

VENDREDI, LE 9 JUIN

AVANT-MIDI.

9.00 à 10.00 heures.—Salle de bal, au 9ème étage. Visite des exhibits commerciaux.
10.00 heures.—Au Normandie. "L'Analgésie" par le docteur J. A. N. Thibert de Fitchburg, Mass.
10.00 heures.—Salle des Conventions. "Le choix d'un anesthésique en chirurgie dentaire" par le docteur Moïse Clermont de Montréal.
11.00 heures.—Au Normandie. "Short cuts and time Savers" par le docteur H. A. Paskow, d'Elizabeth, New-Jersey. Le comité des cliniques et conférences a pu faire venir à Montréal le Dr. Paskow qui est sans contredit le conférencier le plus en demande à l'heure actuelle.
11.00 heures.—Salle des Conventions. "La porosité interne dans la Vulcanite" par le docteur Victorien Dubé d'Edmundston, N-B.
12.00 heures.—Dîners conventum.

APRES-MIDI.

1.00 à 2.30 heures.—Salle de bal, au 9ème étage. Visite des exhibits commerciaux.
2.30 heures.—Au Normandie. "Le curettage de l'alvéole est-il à conseiller après une extraction" par le docteur G. Demontigny, Montréal.
2.40 heures.—"Durant une anesthésie régionale, quelles précautions faut-il prendre pour empêcher une aiguille de se briser" par le docteur Henri Lemieux de Montréal. "Quelles sont les causes d'insuccès dans une anesthésie régionale ou locale" par le docteur Henri Lemieux de Montréal.
2.50 heures.—"Doit-on faire l'extraction d'une dent chez un patient qui souffre d'infection de Vincent" par le docteur Yves Lafleur de St-Hyacinthe, Qué.
3.00 heures.—"Quels moyens devons-nous prendre pour arrêter une hémorragie après extraction" par le docteur Ernest Charron de Montréal.
3.10 heures.—"Quand devons-nous employer le froid et la chaleur en dentisterie" par le docteur Philippe Hamel, Québec.
3.20 heures.—"Qu'entendons-nous par occlusion balancée? Quels sont les avantages de cette occlusion au point de vue fonction, santé des tissus et durée d'un dentier? Quelle sera la meilleure méthode pour obtenir cette occlusion? par le docteur Conrad Archambault de Montréal.

3.30 heures.—Lorsqu'on veut confectionner un dentier immédiatement après extraction, quelle sera la marche à suivre" par le docteur Gérard Baillargeon de Montréal.

3.40 heures.—"Quelles sont les précautions à prendre pour conserver la vitalité de la pulpe durant la préparation d'une coiffe en porcelaine" par le docteur Alcide Thibaudeau de Montréal. "Comment faire le diagnostic de l'infection de Vincent" par le docteur Alcide Thibaudeau de Montréal.

3.50 heures.—"Quel traitement pouvons-nous employer dans l'infection de Vincent" par le docteur Gérard Plamondon de Montréal.

4.00 heures.—"Quand peut-on employer le traitement chirurgical dans la paradentose" par le docteur Jules Thébaud de Port-au-Prince, Haïti.

4.10 heures.—"Doit-on conseiller l'usage d'un médicament avant une anesthésie locale, générale? Quels sont les médicaments recommandés" par le docteur Moïse Clermont de Montréal. "Quels sont les précautions à prendre vis-à-vis d'un patient, avant une anesthésie générale ou une analgésie?" "Que doit-on faire lorsqu'un patient s'évanouit au cours d'une anesthésie" par le docteur Moïse Clermont de Montréal.

4.30 heures.—Salle des Conventions. Cliniques sur tables.

No 1.—Dr. Victorien Dubé d'Edmunston, N-B. "Prothèse".
No 2.—Dr. N. Paquette de Rumford, Maine. "Dentisterie pour enfants".
No 3.—Dr. Jules Thébaud de Port-au-Prince, Haïti. "Traitement chirurgical de la paradentose".
No 4.—Dr. J. A. N. Thibert de Fitchburg, Mass. "Démonstration sur l'emploi de la machine analgésique".
No 5.—Dr. W. R. Pépin de Lowell, Mass. "Démonstration".
No 6.—Dr. A. Blondin de Manchester, N.H. "Prothèse".
No 7.—Dr. Oscar Perreault de Hudson, Mass. "Dentisterie préventive".
No 8.—Dr. Joseph Deslauriers, Chicopee Falls, Mass. "Démonstration".
No 9.—Dr. Gérard Baillargeon, Montréal. "Radiographie du profil et son application pratique".
No 10.—Dr. J. Paskow, d'Elizabeth, New Jersey. "Tours de main".
No 11.—Dr. P. E. Poitras, Montréal. "Démonstration".
No 12.—Dr. P. E. Joly, Montréal. "Orthodontie".
No 13.—Dr. Louis Lépine, Montréal. "L'appareil Edge wise".
No 14.—Dr. Louis Lépine, Montréal. "L'emploi du gnatostate en orthodontie".
No 15.—Dr. Paul Geoffrion, Montréal. "Orthodontie préventive".
No 16.—Dr. Paul Geoffrion, Montréal. "Prise d'impression avec les substances colloidales et manière de les conserver indéfiniment".
No 17.—Dr. A. Bédard, St-Hyacinthe. "Dentiers coulés".
No 18.—Dr. Lucien Reeves, Montréal. "Quelques cas de pathologie buccale".
No 19.—Dr. T. Dionne Joliette. "Bridge Work".
No 20.—Dr. Théo. Coté, Montréal. "Bridge Work".
No 21.—Dr. Alcide Thibaudeau, Montréal. "Préparation de pile pour coiffe en porcelaine".
No 22.—Dr. Ernest Charron, Montréal. "Démonstration".
No 23.—Dr. Henri Lemieux, Montréal. "Démonstration".
No 24.—Dr. Gabriel Lord, Montréal. "Incrustation en or".
No 25.—Dr. Gérard Demontigny, Montréal. "Démonstration".
No 26.—Dr. Conrad Godin, Trois-Rivières. "Ce que le patient désire".
No 27.—Dr. Gérard Plamondon, Montréal. "Paradentose".
No 28.—Dr. Conrad Archambault, Montréal. "Prothèse".
No 29.—Dr. Ad. L'Archevêque, Montréal. "Prothèse".

No 30.—Dr. Maurice Gosselin, Montréal. "Prothèse".
No 31.—Dr. Roland Lasalle, Montréal. "Prothèse".
No 32.—Dr. A. Plessis-Bélair, Montréal. "Prothèse".
No 33.—Dr. J. Lane Charpentier, Montréal. "Démonstration".
5.30 à 6.30 heures.—Visite des exhibits commerciaux.
6.30 heures.—Souper.
7.00 à 10.00 heures.—Visite des exhibits commerciaux.
10.00 heures.—1) Concert-boucane pour les dentistes et leurs amis.
2) Soirée pour les dames.

SAMEDI LE 10 JUIN

AVANT-MIDI.

10.00 heures.—Mezzanine Salon D. "Short cuts and time savers" par le Dr. Paskow.
10.00 heures.—Mezzanine Salon B. "L'analgésie" par le docteur J. A. N. Thibert.
11.00 heures.—Mezzanine Salon D. Conférence par le Docteur N. Paquette.
11.00 heures.—Mezzanine Salon B. Conférence par le docteur Victorien Dubé.
12.00 heures.—Dîners conventums.

APRES-MIDI.

1.30 heure.—Salle Dorée au rez-de-chaussée. 1 film sur la prothèse. 1 film sur la paradentose. 1 film sur la chirurgie.
3.00 heures.—Salle Dorée. 1) Assemblée générale des membres de l'Association. 2) Compte-rendu des activités de l'année. 3) Election du Comité 1939-1940.
3.30 heures.—RECEPTION donnée à tous les membres par le PRESIDENT ELU.

DR. PAUL GEOFFRION,
*Président du Comité des cliniques et conférences.*

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# *Conférence aux Médecins*

par J. ULYSSE DEMERS
*Boursier en Chimie Analytique de l'Université de Montréal; Bachelier et Licencié en Pharmacie; Professeur à l'Université Laval.*

La profession Dentaire et la profession de Pharmacien-chimiste sont si intimement liées et si dépendantes l'une de l'autre, qu'une collaboration consciencieuse est absolument essentielle à la noble cause de servir l'humanité.

J'apprécie grandement l'honneur que vous m'avez fait en m'invitant à représenter ma profession à cette réunion.

Le mot collaboration est un mot merveilleux, qui veut dire: Travailler ensemble, spécialement dans un but littéraire ou scientifique.

Par conséquent lorsque nous employons le mot collaboration, nous voulons dire quelque chose qui est plus qu'une simple coopération au cours de la vie ordinaire.

Nous voulons dire quelque chose qui se rapporte à l'idéal de nos deux professions.

Je vous parlerai ce soir de la "Stérilisation en Pharmacie". Ce n'est qu'un exemple de la collaboration de la part du pharmacien.

La stérilisation est sans doute un des services les plus essentiels que rend le pharmacien à l'humanité.

Il n'est pas rare d'être appelé dans des cas d'urgence, même quelque fois la nuit, par les médecins et les hopitaux, à préparer un sérum ou une solution spéciale pour injections intra-veineuses.

Ici, en assumant la responsabilité de vie ou de mort les connaissances du pharmacien leur sont d'un puissant secours.

Et le pharmacien consciencieux, fier de cet appel et de cette confiance, est content de collaborer dans ce sens avec le médecin.

C'est pourquoi je suis heureux de vous présenter ce travail sur la "Stérilisation".

Sans doute il comporte ses imperfections comme toute oeuvre humaine, mais il vous est soumis avec la meilleure bonne volonté et le désir sincère d'aider dans la mesure de nos forces au bien-être de l'humanité.

. . . . . .

A la suite des célèbres expériences de Pasteur et de son école démontrant la présence des germes microbiens dans l'atmosphère et sur la plupart des corps, à la suite de la préoccupation constante des chirurgiens et des practiciens en général d'obtenir des produits absolument stériles, la pratique de la stérilisation est devenue une opération pharmaceutique des plus importantes.

Le terme STERILISATION tel qu'employé par les professions médicales et de Pharmacie signifie un procédé par lequel tous les micro-organismes vivants et leurs spores sont détruits.

La STERILISATION peut être obtenue par l'emploi d'agents chimiques microbicides, tels que le Phénol, l'Iodoforme etc.

Elle porte alors le nom d'ANTISEPSIE.

Mais d'après certains auteurs comme Dolbert, de Grandmaison et Bresset, les composés chimiques employés sont généralement nocifs pour les cellules de l'organisme dont ils diminuent la force de résistance, aussi les antiseptiques préconisés n'amènent pas toujours la destruction complète des micro-organismes et ils semblent complètement inefficaces vis-à-vis les spores bactériennes.

Kossiakoff a prouvé que certaines bactéries pouvaient vivre, à la suite d'une accoutumance progressive, dans des milieux contenant des antiseptiques.

Les travaux d'Esmarck ont démontré de plus, que les spores charbonneuses peuvent encore se reproduire après un séjour de 42 heures dans une solution aqueuse de Phénol à 5%.

Alors à cause de l'insécurité de la méthode par les agents chimiques et de la possibilité des intoxications, à la suite de l'emploi des antiseptiques, la chirurgie s'est tournée vers l'ASEPSIE.

Certes, l'ANTISEPSIE a rendu et rend encore de grands services à la Chirurgie, mais chaque fois qu'il y a possibilité, et c'est généralement le cas en Pharmacie, la STERILISATION est obtenue par le concours de moyens physiques tels que la chaleur, c'est ce qui constitue l'ASEPSIE.

Les méthodes de STERILISATION approuvées par la Pharmacopée Britannique (ed. 1932) sont:

A—Stérilisation par la chaleur sèche.
B—Stérilisation par la chaleur humide.
C—Stérilisation par le chauffage discontinu.
D—Filtration.
E—Stérilisation par la méthode d'Urgence.

La température nécessaire pour tuer les microbes et les spores varie selon la nature des bactéries d'une part et suivant que l'on fait agir la chaleur sèche ou humide d'autre part.

La température minimum qui est fatale à un organisme est désignée dans le Codex Pharmaceutique, par l'unité anglaise "T. D. P." abréviation de "Thermal Death Point."

A—Dans l'étuve, au contact de l'air sec, ou dans le four à flamber Pasteur, cette température est de 150° C. maintenue pendant une heure.

B—Tandis qu'à la chaleur humide sous pression à l'autoclave, une température de 115° à 116° C. maintenue pendant 30 minutes, est fatale à toutes les sortes de spores.

La stérilisation par la chaleur humide est donc plus efficace.

C'est à la vapeur d'eau qu'elle doit ses propriétés physiques de passer par osmose à travers la membrane qui enveloppe les spores pour aller coaguler le protoplasme intérieur et par là, amène la stérilité absolue des organes générateurs des bactéries.

Dans la pratique pharmaceutique, cette deuxième méthode (stérilisation par la chaleur humide) à cause de la garantie morale qu'elle offre est la plus couramment employée.

Mais un grand nombre de produits tels que l'Atropine, la Caféine, La Procaine, la Cocaine, la Morphine, la Quinine Urée, le Cacodylate de Soude etc., ne peuvent supporter une chaleur de 115° et 116° C., d'ou la nécessité d'opérer à une température beaucoup moins élevée.

Pour ces substances on a recours:

C—A LA METHODE DE STERILISATION par le chauffage discontinu, appelée aussi Tyndallisation, méthode qui consiste à mettre les solutions dans des récipients scellés et à chauffer de manière à ce que la solution entière, dans chaque récipient, soit maintenue à une température de 80° C. pendant une heure et cela pendant trois jours consécutifs.

Tyndall qui a découvert cette méthode, admettait que, pendant le premier temps de la chauffe, les spores généralement plus résistantes que les bactéries, en tout cas non détruites par une seule ébullition, commençaient dès la première opération, à subir une modification de forme et même de propriétés, telle qu'un second chauffage réussissait à les détruire.

Enfin les spores qui avaient tardé à se modifier pendant le premier temps de chauffe, évoluaient à leur tour pour être détruites par le dernier chauffage.

Duclaux, au contraire, prétend que pendant la première période de chauffage, la chaleur dilate les spores qui se gonflent et en fait exuder un liquide, et par suite du phenomène osmotique habituel, une certaine quantité d'eau y pénètre. Il en résulte au bout de 24 heures et, après équilibre du contenu protoplasmique avec l'eau introduite, une masse homogène devenue plus coagulable, en raison même de la pénétration de l'eau.

Sous l'influence d'un second chauffage, la coagulation commence à s'effectuer, le phenomène osmotique se continue.

Enfin par une dernière action de la chaleur, on arrive à une coagulation totale qui amène la stérilité.

Quelle que soit l'explication, on se rend compte de l'efficacité de la méthode par des essais biologiques.

La méthode de Tyndallisation à cause du temps qu'elle exige est fort peu usitée en Pharmacie.

Exception faite pour les ampoules spécialisées et fabriquées en séries.

Et comme cette méthode ne donne pas de garantie absolue, lorsqu'il s'agit de détruire les microbes sporulés, comme ceux du Tétanos ou du Charbon, il est du devoir du Pharmacien de contrôler la stérilité des préparations par les essais biologiques prescrits par la Pharmacopée 1932 (page 632).

La Filtration à la Bougie est aussi acceptée par la Pharmacopée: ici encore la stérilité doit être contrôlée.

Outre les quatre dernières méthodes énoncées, celles qui doivent toujours être employées lorsque la chose est possible parce qu'elles offrent le plus de garantie, la Pharmacopée Britannique permet au Pharmacien dans certains cas particuliers l'emploi:

E—De la méthode d'Urgence.

Cette dernière consiste à stériliser tous les appareils qui doivent être utilisés par le chauffage à l'autoclave ou à l'étuve, à la température T. D. P. (115°-116° C.)

Lorsque l'eau bi-distillée est employée comme dissolvant, elle doit être stérilisée à l'autoclave, à une température de 115° C., mais lorsque le dissolvant est de l'huile fixe il faut maintenir une température de 150° C. pendant une heure.

On prépare la solution puis on ajoute 0.5% de Phénol.

Ici la Pharmacopée permet aux pharmaciens d'employer tout autre antiseptique pourvu que son pouvoir microbicide soit équivalent à 0.5% de Phénol.

La solution est alors mise dans des ampoules préalablement stérilisées puis scellées.

Enfin ces ampoules sont complètement immergées dans l'eau et maintenues durant 30 minutes à une température qui varie entre 80° et 100° selon la préparation.

Les récipients contenant la solution doivent porter une étiquette sur laquelle sont inscrits la date de la préparation et l'avis suivant: Cette préparation doit être conservée dans un endroit froid, et être employée en dedans de 4 jours.

Lorsque cette méthode est employée pour la stérilisation d'une solution pour injection intra-veineuse, il ne faut pas mettre d'Antiseptique.

En employant un matériel déjà aseptique et de l'eau fraîchement bi-distillée et autoclavée, puis en chauffant ensuite la solution dans une ampoule scellée pendant 30 minutes.

Cette méthode, couramment employée par les pharmaciens dans les hopitaux, répond, en cas d'urgence, aux exigences de l'Asepsie chirurgicale.

Mais cette méthode d'Urgence est interdite pour les solutions destinées aux injections intra-trachéales.

Chaque fois que les méthodes approuvées par la Pharmacopée ne sont pas applicables, le Pharmacien doit informer le médecin que la stérilisation parfaite n'est pas possible, et obtenir son approbation sur la marche à suivre pour chaque cas particulier.

Une stérilisation comporte toute une série d'opérations que nous allons passer rapidement en revue, en même temps que je vous ferai une démonstration pratique.

J'ai choisi comme préparation type une solution de Chlorure de Sodium pour injection intra-veineuse.

La solution est toute prête pour la stérilisation.

Je vais donc procéder successivement:

1—Au remplissage des ampoules.
2—Puis au scellage de ces dernières à la flamme d'un Bunsen.
3—Enfin porter le tout à l'autoclave pour la stérilisation proprement dite.

Pendant cette dernière opération je reviendrai, si le temps me le permet, sur la technique à suivre dans la préparation des solutions injectables puis aux méthodes de contrôle:

1—De l'eau distillée employée.
2—De la solution injectable.
3—De l'alcalinité des verres employés.

DEMONSTRATION:

1—Remplissage des Ampoules.
2—Scellage.
3—Mise des ampoules dans l'autoclave.
4—Explications sur le fonctionnement de l'autoclave.

## TEMPERATURE ET PRESSION

La vapeur d'eau produite à la pression atmosphérique ordinaire dans des vases ouverts atteint une température de 100° C. (212° F.).

Mais lorsque l'eau est chauffée dans un récipient métallique fermé (autoclave) capable de supporter la pression, cette dernière en se développant empêche l'eau de bouillir et la température de la vapeur augmente en même temps que la pression.

La pression atmosphérique étant de 14.7 lbs. par pouce carré.

Une augmentation de 10 lbs. donnera donc une pression totale de 24.7 et produira une température de 115° C.

Nous savons que cette température maintenue pendant 30 minutes est fatale à toutes les sortes de spores.

Le tableau suivant montre l'augmentation de la température de la vapeur d'eau, quand la pression excède celle de l'atmosphère.

| Pression atmosphérique 14.7 lbs. par pouce carré. | Pression en excès de pression Atm. | Total | Température C. | F. |
|---|---|---|---|---|
| 14.7 | 0 | 14.7 | 100 | 212 |
| 14.7 | 2.3 | 17. | 104.2 | 219 |
| 14.7 | 5 | 19.7 | 109 | 228 |
| 14.7 | 8.3 | 23. | 113 | 235.4 |
| 14.7 | 10 | 24.7 | 115.5 | 240 |
| 14.7 | 10.3 | 25. | 115.6 | 240.1 |
| 14.7 | 15 | 29.7 | 121 | 250 |
| 14.7 | 20 | 34.7 | 126 | 259 |
| 14.7 | 25 | 39.7 | 130.5 | 267 |
| 14.7 | 30 | 44.7 | 134.5 | 274 |
| 14.7 | | | | |

### Controle de la temperature

Le thermomètre sert à contrôler la température à l'intérieur de l'autoclave, mais si l'on veut se rendre compte que les températures désirées ont été atteintes même à l'intérieur des boites à pansements, on n'a qu'à placer dans ces boites, ou les paquets selon le cas, une ampoule en verre contenant une poudre fusible à la température à contrôler.

On ajoute à cette poudre un colorant comme la fuchsine ou le bleu de méthylène.

Lorsque la température du point de fusion de la poudre est atteinte le mélange prend une teinte rouge-vin dans les cas de la fuschine, ou bleu foncé avec le bleu de méthylène.

Le point de fusion de:

Méthyl acétanilide .....est de 102° C.
Benzonaphtol .....est de 110° C.

### Eau distillee

L'eau distillée du commerce n'est pas nécessairement l'eau distillée de la Pharmacopée Britannique. (Généralement cette eau commerciale est tout au plus recommandable pour l'industrie).

Le Pharmacien, à cause de sa responsabilité, distille ordinairement lui-même l'eau nécessaire à l'aide d'un appareil tout en verre pyrex. Il doit aussi contrôler cette eau par les essais prescrits par la pharmacopée.

### Controle de l'eau distillee

*Caractères:* Incolore, insipide, inodore. S'évapore sans résidu . 100° C. Evaporée à sec au bain-marie ne doit pas laisser plus de un milligramme de résidu, limite de matières solides en solution. Neutre au tournesol.
Absence dans les limites du B. P. de chlorures, sulfates, nitrites, nitrates, ammoniaque, métaux et substances oxydables.

### Substances pyrogeniques

L'eau distillée contient presque toujours des substances "pyrogéniques" produites par un certain groupe de bactéries, qui se développent pendant la distillation et la conservation de l'eau.

Ces bactéries sont détruites pendant la stérilisation mais les produits de leur décomposition restent dans la solution. Ce sont ces substances qui causent la majorité des réactions, dans les injections intra-veineuses.

C'est pourquoi pour détruire et précipiter ces substances pyrogéniques, le formulaire National (6) recommande d'ajouter à l'eau distillée une solution de Permanganate de Potasse et une solution d'hydroxyde de Soude (NaOH) et de distiller de nouveau.

Dès que le réactif de Nestler ne donne plus la réaction de l'ammoniaque, on recueille l'eau bi-distillée.—

Le Formulaire National (6) recommande de plus de stériliser cette eau bi-distillée dans les deux heures qui suivent la dernière distillation.

Notons en passant que l'eau stérilisée doit être employée dans les 30 jours qui suivent la distillation et que pour la préparation des solutions intra-veineuses, l'eau doit être bi-distillée puis stérilisée dans des ampoules scellées et enfin employée dans les 24 heures qui suivent la distillation. (B. P. 32 page 70). (Codex Pharmaceutique 36 page 149).

Dans la méthode d'Urgence on est souvent obligé de préparer la solution immédiatement après la stérilisation de l'eau.

La température de celle-ci étant près du point d'ébullition, il faut tenir compte dans le mesurage de la dilation de l'eau, dilatation qui varie dans ces conditions entre 5% et 6%.

N. B. Pour l'eau bi-distillée, rejeter la 1ère partie et la dernière.

Les solutions physiologiques employées en injections intra-tissulaires et intra-veineuses doivent être isotoniques.

"Lorsque une cellule végétale est plongée dans une solution isotonique, il ne se produit aucun phenomène, mais si la solution est hypotonique, l'eau pénètre dans la cellule et la gonfle.

Si au contraire la solution est hypertonique, l'eau de la cellule se filtre pue à peu à travers sa membrane, et le protoplasme, quittant la paroi cellulosique, s'isole au centre de la cellule.

C'est la plasmolyse.

Le globule rouge du sang offre les propriétés osmotiques de la cellule végétale.

Au contact de l'eau il se décolore, en cédant sa matière colorante à l'eau; il y a hémolyse.

Au contact des solutions diluées, le globule rouge cède encore son pigment, mais avec moins d'intensité et le phenomène ne se produit plus avec une solution isotonique." (Cours de Pharm. Galen. & Chim. Univ. Mont.)

L'isotonie d'une solution est donc une question de qualité, une question de rapport entre le corps dissous et le dissolvant.

Pour les solutions isotoniques au Sang, les formules suivantes ont été établies:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Borax | 29 | gram. | plus | eau | dist. | q. s. | 1000cc. | P/V |
| CaCl | 11.8 | " | " | " | " | " | " | " |
| Dextrose | 51 | " | " | " | " | " | " | " |
| Sulf. de Magnésie | 63.5 | " | " | " | " | " | " | " |
| Sulf. de Potassium | 11.2 | " | " | " | " | " | " | " |
| Bicarb. de Soude | 13.5 | " | " | " | " | " | " | " |
| Bromure de Sodium | 17.7 | " | " | " | " | " | " | " |
| Chlorure de Sodium | 9.1 | " | " | " | " | " | " | " |
| Phosphate de Sodium | 45.3 | " | " | " | " | " | " | " |

Il y a plusieurs méthodes pour ajuster l'isotonie des solutions. Ces méthodes sont basées sur les phenomènes physiques suivants:

1o—Dépression du point de Congélation.
2o—Elévation du point d'Ebullition.
3o—Abaissement de la Pression de Vapeurs.
4o—Augmentation de la Pression Osmotique.

. . . . . .

Il y a aussi la méthode basée sur l'ionisation, méthode trop longue pour être expliquée ici.

La méthode basée sur la dépréciation du Point de Fusion est la plus couramment employée.

NOTES SUR L'ISOTONIE DES SOLUTIONS

L'eau gèle à 0° C. mais si l'on dissout du NaC1 dans l'eau on abaisse son point de Congélation et cet abaissement est d'autant plus grand que la quantité de NaC1 est plus grande.

(Préparation de l'Antifreeze).

. . . . . .

L'expérience a démontré que le point de Congélation du Sang humain normal est de -0.56° C.

En autant que l'eau est le médium dans lequel les constituants sont dissouts ou en suspension, il est évident qu'une solution aqueuse qui a un Point de Congélation de -0.56° C. est isotonique au sang.

Lorsque la solution d'un médicament doit être rendu isotonique par l'addition d'une autre substance, la quantité de cette dernière, qui doit être ajoutée, peut être trouvée par les calculs suivants: (B.P. Code 1936).

$$W = \frac{0.56\ (-a)}{b}\ \%\ P/V.$$

LES PRODUITS CHIMIQUES EMPLOYES —

Les produits chimiques employés dans la préparation des solutions injectables, doivent être de toute première qualité, et ceci est très important.

Si l'on employait par exemple du Chlorhydrate de Cocaine contenant comme impureté des traces d'Iso-Atropyl-Cocaine, l'effet serait désastreux puisque ce composé, qui existe dans les feuilles de Coca est reconnu comme un poison cardiaque.

On peut lire dans l'Index de Merck page 175 sous le titre "Cocaine Hydrochlor U. S. P. X." le texte suivant: ("Maclagan's test should be applied to see that no iso-atropyl-cocaine [a heart poison] is present).

Le Cacodylate de Soude contient toujours une quantité variable d'eau de cristallisation.

Celui de Merck en contient entre 26 et 28%, d'où la nécessité, dans bien des cas, de faire le dosage volumétrique des solutions.

AMPOULES

Les solutions stérilisées sont quelquefois mises en flacons, dans lesquels le médecin va puiser, chaque fois qu'il en a besoin, la quantité de liquide nécessaire à l'injection.

Il en résulte qu'au bout d'un certain temps malgré toutes les précautions prises, le flacon étant maintes fois débouché, la solution se trouble et est contaminée.

Pour empêcher cette contamination la Pharmacopée, recommande l'addition d'un antiseptique convenable ayant un pouvoir microbicide équivalent à 0.5% de Phénol.

Mais même dans ces cas nous avons vu que l'antiseptique offre toujours un désavantage.

Aussi l'usage de mettre les liquides à injecter dans de petites ampoules contenant juste la quantité nécessaire pour une injection, s'est-il de plus en plus répandu ces dernières années.

CHOIX DES AMPOULES

Il convient d'indiquer ici quelle est la matière employée à la confection des ampoules, telle que la:

Qualité du verre:

Le verre est fabriqué avec de la silice dont le point de fusion est abaissé par l'addition d'oxydes divers. Les verres employés couramment sont des combinaisons de silicates alcalins et alcalino-terreux très complexes, telles que: silico-borates de barium, alumine et oxyde de zinc.

Certains verres alcalins, calciques (verre ordinaire) ou plombiques (cristal) donnent lieu (après stérilisation des liqueurs qu'ils renferment à la formation d'un précipité ou d'un composé nouveau soluble qui peut être toxique.

La Cocaine entre autres est facilement décomposée par une haute temperature, et les alcalis et les carbonates alcalins avec formation d'alcool méthylique ($Ch^3OH$) d'acide benzoique ($C^6H^5COOH$) et d'ecgonine ($C^{19}H^{15}NO^3$).

Cette décomposition est d'autant plus grande que le verre est plus alcalin.

On doit donc utiliser des ampoules fabriquées avec des verres qui ne cèdent à l'eau qu'une trace d'alcalis.

Généralement le verre d'Iéna et le verre Serax conviennent très bien, mais le pharmacien doit contrôler l'alcalinité de ces verres par la méthode reconnue par la Pharmacopée. (Ed. 1932).

N. B. En pratique pour le lavage et le dégraissage des ampoules, il suffit de les faire bouillir 15 minutes dans une solution diluée de HC1 et de les laver ensuite avec de l'eau distillée.

On se rend compte de l'élimination complète de toute trace d'acide et de neutralité de l'ampoule par le PH, de la dernière eau de lavage.

Les ampoules n'ont pas une contenance rigoureusement exacte; elles doivent renfermer un peu plus du volume nécessaire à l'injection.

. . . . . .

Messieurs, mon exposé est terminé. Si je dois vous remercier de votre bienveillante attention, je vous sais gré, également, de l'honneur que vous m'avez fait de venir vous entretenir d'un sujet qui concerne nos deux professions.

Je vous disais, au début, qu'il devait y avoir collaboration entre les membres des professions paramédicales et le pharmacien. La réunion de ce soir en est une preuve irréfutable et fait mieux comprendre nos étroites relations. C'est en les développant, ces relations, que nous rendrons les plus grands services à l'humanité confiée à nos soins.

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# *Craquements et Luxations Temporo-Maxillaires*

**par le docteur Dufourmentel**

*(La Revue Odontologique, déc. 1938)*

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Les craquements articulaires constituent une phase prémonitoire de la luxation, non pas que tout sujet atteint de craquements voie son articulation évoluer inévitablement vers la luxation, mais on peut dire que toute luxation non accidentelle résulte d'altérations articulaires qui se révèlent pendant un certain temps par des craquements.

Ceux-ci peuvent être d'intensité très diverse: Dans les cas légers, ils sont à la fois peu gênants et de peu de durée. Dans les cas plus accentués, ils deviennent douloureux, perceptibles par l'entourage et s'accompagnent très vite de limitation de l'ouverture buccale. Enfin, dans les cas plus graves, ils évoluent vers la luxation condylo-méniscale, puis vers la luxation complète.

L'anatomie pathologique explique admirablement cette progression. Dans les cas légers, il y a simplement inflammation du ménisque qui est à la fois gonflé et rétracté en arrière. Dans les cas plus anciens et plus graves, le ménisque se déforme au point d'arriver à se plicaturer. A un stade plus avancé dès que le malade dépasse un certain degré d'ouverture buccale, le contact ménisco-condylien cesse et le condyle passe brusquement au contact même de la surface temporale.

Le traitement pendant les premières phases doit être simplement calmant. En diminuant les réactions, on fait cesser à la fois les symptômes et le gonflement progressif du ménisque. Le meilleur moyen est l'injection péri-méniscale de novocaïne non adrénalisée.

A un stade plus avancé, on pourra quelquefois amener la sédation en ajoutant de l'alcool à la novocaïne. Dans les cas qui atteignent la luxation ou plus simplement dans ceux qui sont trop douloureux ou trop gênants, le seul traitement définitif est la méniscectomie.

Il est intéressant d'ajouter à ces considérations pratiques un mot de pathogénie. C'est très souvent par suite d'une coudure progressive du maxillaire inférieur que le condyle se trouve porté en avant et détermine l'irritation et la déformation du ménisque. *La cause la plus habituelle de cette déformation de l'os est la perte prématurée des premières molaires, en particulier des dents de six ans et quelquefois également des prémolaires.*

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## *Histoire sans paroles (Lange)*

4ième scène

MELBOURNE,
AUSTRALIA.

Swanson Street,
looking north.

(*Victorian Railways Photo.*)

## The Tenth Australian Dental Congress will be held in Melbourne in August.

### *Personality*

*Every man at the core of his being is a little world apart, separated from all about him by the unfathomable gulf of personality. From time to time he feels an urgent necessity to betake himself to his central sanctuary, "watch-tower and treasure-fortress of the soul." For one the opportunity may come as he walks alone to and from his work. Another can find it best in the seclusion of his own room, or in a few minutes on his knees in a quiet church. Some, driven by the lack of other opportunity, have schooled themselves to pay a lightning visit to the secret chamber of the heart between two business talks or two spells of work, for length of time is not essential. Such is the miracle of the human mind and soul that even in the mid-turmoil of the day a few seconds of self-abstraction, unremarked by those around, may bring renewal and refreshment adequate for long succeeding hours.—The Times. (London).*

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# *Surgical-Medical Treatment and Differential Diagnosis of the Variety of Facial Pains**

by MARK ALBERT GLASER, M.D., Los Angeles, California

PAIN in the face is, without doubt, a problem of greater significance to the dental surgeon than to the physician, as it is the natural trend of events for such a patient to visit the dentist first for pain in and about the mouth. In order to prevent the extraction of teeth for pain, which cannot be relieved by such a method of therapy, a clear cut, diagnostic knowledge, together with the proper surgical means of therapy, should be familiar to all dentists.

The neuralgias and head pains may be divided into three main groups:

1. Trigeminal neuralgia, primary and secondary.
2. Other cranial nerves, neuralgias and otalgias.
3. Sympathetic vascular pain.

PRIMARY TRIGEMINAL NEURALGIA:

Tic douloureux, also called trigeminal neuralgia, chronic paroxysmal neuralgia, epileptiform neuralgia, prosopalgia, trifacial neuralgia, major neuralgia and Fothergill's disease, was known to early civilization. Trigeminal neuralgia was recognized by Avicenna in A.D. 1000, and was later described by Schlichtung in 1748, Nicolous Andre in 1756, who first named it "tic douloureux," and Fothergill in 1773, who accurately described the disease.

The pain of "tic douloureux," which is probably one of the most severe known to medicine, occurs about equally in men and women. The right side is more frequently involved than the left. The average age of onset is approximately 50 years, though cases have been reported at 12 and at 87 years. It is confined mainly to the second and third nerve division, rarely to the first.

The onset is usually sudden and violent. The pain may then leave and the patient be pain free for months, or even years. After the disease has once established itself, the patient has acute paroxysms of sharp, lancinating, knife-like pains, occurring in attacks of a few seconds, with intervals of freedom. The period of repeated attacks may last from several days to several weeks, and then a remission of months to years may occur. As the time from the original attack increases, the intervals of freedom are les-

* Read before the Pacific Coast Dental Conference, Vancouver, British Columbia, July 6, 1938.

sened and the morale of the patients is lowered, so that they are in constant fear of an impending attack.

The attacks are brought on by contact and even draughts of air. Occasionally, the only relief from pain is obtained by going to bed in a dark room and abstaining entirely from food. Trigger zones, or certain sensitive areas in the face, any slight pressure on which brings on an attack, are characteristic of the disease.

The pain of trigeminal neuralgia, which is always confined to the sensory distribution of the fifth nerve, never going beyond its bounds, is superficial, and there is absolute freedom from pain between these attacks, although occasionally there is discomfort present in this interval. It is a unilateral disease, primarily, though there have been reported in the literature about fifty-four patients who have had bilateral pain. Trigeminal neuralgia is a disease of unknown aetiology and no single case has ever been cured by the clearing up of oral sepsis, the extraction of carious teeth, the treatment of apical abscesses or sinus operations. In addition, no single case has ever had permanent relief without therapy.

### Treatment:

Trichlorethylene, a drug discovered by chance in Germany during the World War, I have found of value in eleven per cent of my own series of patients. When a patient is relieved by trichlorethylene therapy, sensory anaesthesia does not occur. Alcohol injection of the second and third divisions is only palliative, the period of relief usually continuing from six to eighteen months, and occasionally as long as seven years. The unfortunate fact is that, after repeated alcohol injections, a period arises wherein further injection of the nerve does not relieve the pain, primarily because a marked fibrosis has occurred about the nerve, thus preventing the infiltration of alcohol. The extra oral route is utilized by the neurosurgeons, though the extra-oral route of the dental surgeon is of value for the mandibular block. Alcohol should never be injected into the first division because of the proximity of the nerves to the eyes and the resulting dangers frequently arising therefrom, particularly paralysis of the ocular muscles, and occasionally blindness. I personally do not favour alcohol injection of the ganglion because of the danger of infiltration into the pons along the nerve sheath. Numerous such cases of pontile destruction have been reported in the literature.

The surgical treatment of trigeminal tract has reached the stage of great efficiency. The pain can be absolutely relieved permanently with the minimum risk to the patient and with the surprisingly low mortality of 0.25 per cent. The present accepted operation is that described by Spiller and Frazier wherein the sensory root is partially sectioned. As the disease rarely involves the ophthalmic division, the sensory supply to the cornea is maintained in order to prevent a keratitis. The operation, which can be performed as readily in the old as in the young, leaves the patient without any facial disfigurement. Intracranial section of the three divisions of the trigeminal nerve, as well as removal of the ganglion, has given way to subtotal section of the sensory root. Conservation of the motor root is also carried out in order to prevent paralysis of the muscles of mastication and to leave the patient in a position for a bilateral operation, if such is needed.

In patients with bilateral trigeminal neuralgia, the posterior route of Dandy is the most efficient.

### Secondary Trigeminal Neuralgias

*I. Dental Origin*:

1. Exposure of the dentine or superficial caries.

2. Unerupted wisdom teeth.
3. Impacted molars.
4. Dental pulp stones.
5. Impingement of the roots of the molar upon the inferior dental canal.

*II. Tumours*:

1. Gasserian ganglion.
2. Suprasellar brain tumours.
3. Naso-pharyngeal.
4. Base of skull.
5. Root of the fifth nerve in the posterior fossa.
6. Malignant disease about the face and neck.
7. Acoustic neuromas.
8. Cholesteatomas.
9. Osteomas.

*III. Vascular Lesions*:

1. Aneurysms of the internal carotid.
2. Thrombosis of the posterior inferior cerebellar artery.
3. Aneurysms of the basilar artery.
4. Cavernous angiomas surrounding sensory root.
5. Miscellaneous arteries and veins irritating the root in the posterior fossa.
6. Petrosal vein crossing sensory root.

*IV. Inflammations*:

1. Gasserian ganglion.
2. Gradenigo's syndrome.
3. Intra-oral or submaxillary abscess.
4. Cellulitis or Ludwig's angina.
5. Osteomyelitis or periostitis.
6. Adhesions about the sensory root and brain stem.
7. Empyema of the antrum.

*V. Diseases*:

1. Multiple sclerosis.
2. Syphilis.
3. Syringobulbia.

*VI. Traumatic*:

1. Fracture of the skull.
2. Fracture of the jaw.
3. Secondary to dental extraction.

*VII. Miscellaneous*:

1. Myoma cutis.
2. Congenital malformations of the skull.
3. Unknown aetiology.

In the secondary group the classification is self-explanatory. I have listed the various types of pathosis which may result in pain within the distribution of the trigeminal zone. The pain in true trigeminal neuralgia is so characteristic that little confusion could exist in its differential diagnosis.

Dandy has reported a series of cases wherein intracranial exploration by the sub-occipital route has revealed the presence of vascular and adhesive pathosis in and about the sensory root. It is his belief that these abnormalities were responsible for the trigeminal pain. These patients were relieved by subtotal resection of the root. From a clinical standpoint, these patients in every way simulated the cases of true trigeminal neuralgia previously described.

There are, however, many extracranial causes of secondary trigeminal pain which irritate the peripheral nerve divisions. Many of these are quite obvious upon examination of the patient, and therapy must be directed to the eradication of the primary cause. In these particular cases, the pain as a rule is of a more chronic nature, and the attacks are longer and less severe. Trigger zones are rare. The pain, however, is of a superficial, cutting, sharp variety, well within the bounds of the trigeminal distribution. The patients may be relieved by alcohol injection or surgery. In malignancy of the face, injection therapy is extremely valuable for the relief of the pain and also facilitates painless surgical measures. Though the injection by no means cures the primary malignancy, it makes the patient's life one of ease and comfort. Occasionally we find cases of this chronic nature wherein an aetiology is indeterminable, yet relief is secured by alcohol injection.

### Other Cranial Nerves, Neuralgias And Otalgias:

The sensory supply to the auricle, external auditory meatus and tympanic membrane is extremely complex and is

associated with a great amount of overlap. These nerves are the cervical, trigeminal, facial, glossopharyngeal and vagus. This overlap is entirely dependent upon the embryological development. As a result of this sensory supply primary otalgias, though little described, have, however, been reported in 12 patients (Glaser). From a dental standpoint, reflex otalgia is probably the more important type of ear pain because it is often secondary in inflammation in the mouth teeth and jaw. Not infrequently an infected tooth on one side of the jaw refers pain to the opposite ear.* The limitations of such reflex pain must be realized by the dental surgeon, as there are other types of ear pain dependent on the various cranial nerves. These pains will not be relieved by clearing up mouth sepsis or the extraction of teeth. Except for the cervical neuralgias, these pains occur in attacks of short duration, are acute, lancinating and sharp, are aggravated by irritation of trigger zones, and in every way represent trigeminal neuralgia, except that they follow the respective distribution of the cranial nerve involved. As these nerves have a sensory supply to other parts of the head naturally these patients present pictures other than otalgia. I wish to now briefly consider the various syndromes produced by the above mentioned nerves.

1. *Cervical Neuralgias*: The second and third cervical nerves supply the area of the head from the trigeminal boundary downward, the mastoid and the anterior and posterior part of the auricle, there is, however, an overlap of sensory supply by the facial and vagus nerves. The neuralgias of these nerves may be divided into two types: 1, the cervico-occipital and 2, the cervico-otalgic.

The *cervico-occipital neuralgias* is rare. Remak has reported 50 cases in a series of 1,500. The aetiology is the usual cause of all neuralgias, but may also be produced by arthritis, tumours, injuries and aneurysms of the vertebral artery. This type of neuralgia must be differentiated from the psychogenic pains so commonly found in this region. The pain follows the bounds of the sensory distribution, is frequently bilateral, and usually paroxysmal in occurrence. The attacks are of longer duration than those of trigeminal pain, and are usually of a more aching character. Occasionally, however, the tenderness may be so acute that ruffling of the hair may start a paroxysm. The head is usually held in a stiff position, and during the paroxysms of pain jerking of the neck musculature with head movements may result. Trophic disturbances, such as graying of the hair or loss of hair, may occur.

The *cervico-otalgic neuralgias* are extremely infrequent. I have only been able to collect three such cases in the literature. The first case was reported by Nottingham in 1857, and was associated with an acute onset of pain located in the sensory supply of the cervical nerves on the auricle, and closely simulating trigeminal neuralgia except for the location. The other two cases were reported by Hall in 1932, and by myself in 1932. These patients had longer attacks, starting very much like a migraine, with a gradual increase of symptoms until a crisis was reached. In Hall's case a cervical arthritis was present. In my case the dental hygiene of the patient was probably the worst I have ever encountered and his tonsils were badly infected. Following the clearing up of his dental sepsis and the removal of his tonsils, the pain was entirely relieved.

The treatment of both of these groups must first be directed toward the causative factor. If this does not relieve the

* Editor's Note:—It will be interesting for our readers to peruse the opinions expressed on this subject in the Problems in Practice Section of this issue of the Journal.

pain, injection or section of the cervical nerve can be carried out.

2. *Facial, or Seventh Nerve Neuralgia*: Ramsey Hunt, following studies on herpetic inflammations wherein pain was localized in the depths of the ear, auditory canal and mastoid region, concluded that the facial nerve is a mixed nerve. He was not certain as to the definite outline of this sensory zone, but as a result of the study of seventeen cases of primary isolated herpes zoster formed the opinion that this sensory zone consists of the tympanic membrane, the external auditory canal, and meatus, the concha, tragus, anti-tragus, anti-helix, fossa of the anti-helix, and lobule of the ear. He did not believe this entire area was represented by the geniculate zone. He felt that allowance must be made for overlapping of the trigeminal in front and the cervical behind, and he further believed that the glossopharyngeal and vagus nerves were also partially represented in this area. Having observed two cases in which the eruption was distributed posteriorly in the cleft between the auricle and the mastoid process, posterior auricular branch, he assumed that considerable variation existed in the ganglionic representation of the seventh, ninth and tenth nerves in the region of the auricle. The investigations of Retzius, His. v. Lenhossek, Penzo, Sappolini, Van Gehuchten and Dixon have shown conclusively that the fascial has a sensory ganglion, the geniculate; a sensory root, the pars intermedia of Wrisberg; as well as sensory fibres coursing in the chorda tympani, the great superficial petrosal nerve and the trunk proper of the seventh.

Wilson believes, however, as a result of anatomical study, that there is insufficient evidence present to prove that the geniculate ganglion nerves supply the tympanic membrane. The nerves of the tympanic membrane enter from the external, auditory meatus, pass in large trunks from the principal arteries and in small branches along the periphery. These form a plexus in the fibrous tissue from which branches are distributed to a sub-epithelial and a sub-mucus plexus. In addition, there is to be distinguished a zonular and an intra-epithelial plexus. There are also nerves lesser in number that enter from the tympanic cavity. Only one variety of nerve-ending is seen in the epithelium.

The first clinical case was reported by Max, in 1894. At that time he naturally did not realize the nerve involvement and considered the patient a case of otalgia. His method of therapy did not relieve the patient. Clark and Taylor in 1919, being familiar with the work of Ramsey Hunt, had the opportunity of seeing such a patient who had attacks of acute, lancinating pain deep in the ear. These pains were of such an excruciating nature that surgery of the seventh nerve was carried out. The seventh, the pars intermedia and the upper fasciculus of the eighth nerve were cut, with an entire relief of symptoms. McLean, in 1935, reported such a patient, who however would not submit to surgery, with the consequent continuation of pain. Due to the overlap of sensory fibres of the seventh and ninth cranial nerves, the differential diagnosis from a clinical standpoint in primary deep-seated ear pain is impossible. Reichert has pointed out this important point in the case he had operated upon under local anaesthesia believing he was dealing with a seventh nerve, but in reality he was dealing with a ninth nerve neuralgia. Consequently operation under local anaesthesia with irritation of the nerve is essential to determine which of these two is the offending member.

3. *Glossopharyngeal, or Ninth Nerve Neuralgia*: Weisenburg in 1910 was first to describe irritative symptoms

secondary to the glossopharyngeal nerve. In a patient with a tumour of the cerebello-pontile angle, the ninth and part of the tenth nerve was stretched over the growth, which also compressed the fifth nerve. The pain was only partially relieved when Frazier sectioned the fifth root. This pain was situated in the root of the tongue, referred to the ear and down the neck; was associated with burning of the throat, a constant sense of dryness, and the paroxysms occurred spontaneously, or were brought on by eating. This, Weisenburg attributed to irritation of the glossopharyngeal nerve. In 1920, Sicard and Robineau described three cases met with during the War of what they named "Algie velo-pharyngee essentielle." They did not recognize the nature of this pain and recommended extracranial section of the glossopharyngeal nerve, the pharyngeal branch of the vagus and the superior cervical sympathetic for the relief of pain. In 1921 Harris reported two cases, which he had followed for a lengthy period of time, and also failed to recognize the clinical picture. Since then Adson, Dandy, Stookey and Doyle have recognized the significance of this pain and have recommended intracranial section of the glossopharyngeal nerve. The clinical picture may be divided into two groups: The glossopharyngeal neuralgia proper consists of pain in the region of the tonsil, throat or base of tongue, occurring in severe paroxysms similar to those of trigeminal neuralgia, and radiating to the front of the ear, around the pharynx and palate, the auditory meatus, pinna and back of the lower jaw. The pain occurs spontaneously, or may be brought on by swallowing, eating or by touching the trigger zone at the base of the tongue or in the tonsilar region. Occasionally the pain may be brought on by touching the pinna. During these attacks of pain there is a sense of dryness in the throat which is followed by a cough as if the patient was attempting to expel an irritating substance from the throat.

In contra-distinction to this complete picture, this pain may be confined entirely to the ear and may be confused with the facial nerve neuralgia described by Ramsey Hunt. This neuralgia is primarily concerned with the tympanic plexus branch, and attention has been directed to a patient of this type by Reichert. Other cases of otalgia, secondary to glossopharyngeal neuralgia, have been described by Doyle in 1923, Keith in 1932, Reichert in 1933, Erickesen in 1935, and Lillie and Craig in 1935.

4. *Vagus, or Tenth Nerve Neuralgia*: The vagus nerve is distributed to the back of the auricle, inferior posterior wall of the external acoustic meatus, and the concha, as well as the tympanic membrane. The superior laryngeal nerve of which the internal branch is the sensory supply, inervates the mucus membrane of the larynx, the epiglottis and base of the tongue. Pain deep in the ear has been attributed by Fay to a neuralgia of the vagus nerve, because in cases of malignancy by section of the vagus he was able to relieve this pain. This pain, however, was not of a paroxysmal nature of the trigeminal attack.

Neuralgia of the superior laryngeal nerve has been described by Avellis, Hutter, Bailey, Harris, Echols and Maxwell. It is characterized by paroxysms of unilateral pain, which radiates from the side of the thyroid cartilage to the angle of the jaw and occasionally to the ear. There is a trigger zone at the plica of the nerve in the pyriform sinus. Swallowing will bring on an attack. There is a sensitive point superficially situated, above the lateral to the thyroid cartilage, where the nerve pierces the hypothyroid membrane.

SYMPATHETIC VASCULAR PAIN:

The third main group of facial pain is, without doubt, the most important; and further, the one we know least about how to treat and less about its aetiology than of those previously presented. The recognition of this type of pain is of great significance to the dental surgeon. It is further of a great significance to the medical man. It is this patient with his obscure and irritating pain who goes from physician to dentist, from dentist to physician; has all his teeth removed; has his sinuses operated upon; surgery performed upon the abdomen and pelvis, and even upon the trigeminal tract. In fact, the recognition of this particular pain group became evident when all this type of surgery was performed when the trigeminal tract was operated upon with the resulting numbness, and instead of relief, the patient became worse. Some of these patients have visited as many as 126 physicians, both in America and Abroad. For want of a better term, Frazier, Russell and Glaser have called this group "atypical facial neuralgia." This pain has been described in the literature under various names, such as: ciliary neuralgia, migrainous neuralgia, atypical migraine, allergic migraine, sympathetic neuralgic headaches, cephalgias, facial causalgias, meatic cephalgias of the jaw, sympathetic hemicrania, autonomic faciocephalic neuralgia, sphenopalatine neuralgia, Vidian neuralgia and psychogenic neuralgia. This group may be divided into a primary and secondary form:

This pain, in my opinion, is very closely related to migraine in respect to the symptomatology for it must be remembered that true classical migraine is not as frequent as the various obscure pains that have been considered of a migrainous nature. You are all familiar with the characteristic symptomatology of migraine, with its periodic attacks of unilateral and bilateral headache, associated with nausea, vomiting, vertigo, with vasomotor disturbances, visual hallucinations and digestive symptoms, and therefore will note some of the similarities of this syndrome to migraine.

*Primary Atypical Neuralgia*: Based on my series of 200 patients, the character of the pain is quite different from the acute neuralgias heretofore described. As all of these former pains were secondary to a peripheral sensory supply, the pain naturally was of a superficial nature and aggravated by contact of the region supplied by the respective nerves. This pain is never superficial, is always deep-seated. of an aching, burning or throbbing type. The patients find great difficulty in accurately describing the sensation. In all, some seventy different adjectives have been utilized, such as: dull aching, throbbing, burning, shooting, sharp, sense of pressure, drawing, needle-like, boring, toothache, pulling, soreness, gnawing, bursting, tearing, electricity, hot iron, tingling, smarting, nagging, knifelike, beating, stinging, pricking, bugs creeping, itching, gripping, lightning. In addition, the following descriptions have been used; the sensation was like tearing celery, a thousand fishhooks pulling and tugging on the face, birds flying under the skin, the pounding of a hammer on the face, a hot poker back of the eye, the cutting away of pieces of bone or muscle beneath the skin, a bruise, a saw cutting the face, something in the jaw, a mass of fire, pins and needles, stiffness, the feeling of menthol, the buzzing of a mosquito, a log on top of the head, a full feeling, a hard knot deep in the eye, the bursting of an eyeball, the pushing of the eye through the head, drawing out the eye or a ball of fire or electricity in the eye, twitching, severe, jumpy, crawling, unbearable, wearing, pounding, surging, crushing, vibrating, excruciating or grabbing.

In about one-half of this series of 200 patients no cause could be attributed to the onset of pain, though numerous coincidental events were thought by the patient to be responsible for their difficulties. Thirty-eight felt that pain followed the extraction of teeth, sixteen attributed the onset of pain shortly after an accident, whereas thirteen believed the pain followed surgery, and six had numerous minor causes as the aetiology of the complaint. It is quite apparent from this study that no particular factor could be held responsible for the onset of this pain, and these events were coincidental, except possibly for the extraction of teeth. In tic douloureux the sex was equal, whereas in atypical neuralgia females predominate. Bilateral pain occurs in only 2% of the cases of tic douloureux, while it occurs in 33% of the cases of atypical neuralgia.

The distribution of the pain in trigeminal neuralgia was always in the area supplied by the trigeminal nerve, whereas in atypical neuralgia a circular area within the vascular supply of the face and head existed. The pain was felt in the chin, along the nose, around the eye, over the brow, to the vertex or temporal region, in front of, in or through the ear and thence down into the suboccipital region. Occasionally it entered the shoulder, rarely the body. This wide area of distribution could occur in a single case, or individual areas, or various combinations of areas could exist.

The pain of trigeminal neuralgia is brought on by the slightest local contact, and trigger zones occur over the facial foramina. In the atypical group occasional tenderness over the cervical sympathetic ganglion, or the carotid artery was present. The pain of atypical neuralgia is aggravated by such local factors as: cold, draft, heat, eating, light, contact, brushing teeth, vibrating, reading, wind, blowing nose, sneezing, swallowing, shaving; and such general factors as: fatigue, excitement, menses, worry, talking, winter, exertion, night, lying down, stooping, morning, noise, damp, motion, cough, arguments, washing face, constipation.

Sympathetic phenomena are present in about 50% of the cases of atypical neuralgia, and never present in trigeminal neuralgia. These sympathetic phenomena consist of ocular disturbance, such as: lachrymation, oedema, corneal injection, unequal pupils, blurred vision, photophobia, enophthalmos. In addition, the following symptoms, some of which are common in migraine, have been present: nausea, vomiting, flushing of face, nasal discharge, perspiration, salivation, puffy face, feeling of warmth, ringing in ears, soreness over temporal artery, chills, aural discharge.

Outstandingly different from trigeminal neuralgia is the continuous nature of this deep-seated, aggravating pain without periods of relief. As has been previously mentioned, trigeminal neuralgia manifests itself by short momentary attacks of excessively severe pain. The atypical patient has a continuous pain of a more annoying, aggravating nature, disturbing the patient by its persistence and chronicity, rather than its severity. Superimposed upon this chronic pain the majority of these patients complained of attacks of greater or less severity, which would come on either acutely or insidiously. If an attack of pain had an insidious onset, it would gradually increase in intensity over a period of from several hours to several days. Then the pain would be at its height over a period of from several hours to several days. During the period of most severe pain associated, sympathetic phenomena were present in some cases and the patient would necessarily be confined to bed. The attack might then either suddenly subside or gradually disappear. These attacks might

occur at intervals of several days to even months, but during the interim between attacks the patient was never free from pain. This phase of the disease picture demonstrates its close alliance to migraine, and even more closer alliance to migraine is demonstrated by a small number of patients who have frequent attacks, as above described, with only a minor persistent ache or even at times no ache, in the interval between attacks. Another small group of these patients is more closely allied to the trigeminal picture in that these attacks may last for a half hour to several hours, and occur rather frequently in the day, during a susceptible period. However, upon close questioning, the character of the pain differs from the true trigeminal group. At times, however, one cannot differentiate this picture from clinical trigeminal neuralgia, and an alcohol injection is used as a therapeutic test. Occasionally one has to differentiate this pain from a true psycho-neurosis. Narcotic addiction is common in the atypical group, but never among the trigeminal patients. The aetiology of this primary group has, as yet, been undiscovered, and the treatment is exceedingly difficult.

*Secondary Atypical Neuralgia*: In this particular group the pain picture in every manner represents the primary atypical variety, except that a definite aetiology has been found. The nerves passing along the vascular tree have been irritated and the relief of the pain occurs by treating the causative factor. In some of these cases it is impossible to relieve the pains, though the causative factor has been discovered. The following outline presents the various disease processes which may bring about this pain:

1. Dental pathosis.
2. Trigeminal ghosts.
    1. Post-herpetic neuralgia.
    2. Post root resection neuralgia.
3. Acute infections.
    1. Otitis media.
    2. Mastoiditis.
    3. Sinusitis.
    4. Abscess in the prevertebral space.
    5. Deep facial abscess.
4. Chronic diseases.
    1. Diseases of the lung.
    2. Diseases of the gallbladder.
    3. Diseases of the gastro-intestinal tract.
    4. Diseases of the pelvis.
5. Derangement of the temporal mandibular joint.
6. Myalgia of the neck muscles.
7. Painful tic convulsif.
8. Psychoneurosis.

In acute infectious diseases that are responsible for this pain, and particularly when the patient is seen early, definite relief can be obtained. Sluder first called attention to a pain syndrome resulting from sphenoidal sinus infection based upon an irritation of the sphenopalatine ganglion or vidian nerve. Braeucker, in 1933, felt the otic ganglion may also be a factor in the production of this pain. In these acute cases cocainization of the sphenopalatine ganglion, injection of the ganglion, or surgery upon the sphenoidal sinus, or other sinuses, relieves the pain. From a clinical standpoint, the pain in every way simulates the primary atypical group, except for the short duration and relief of pain by such therapy. Many of the cases of the primary atypical neuralgia are so treated without relief of pain.

Lapinsky, Fay and myself have seen this syndrome produced by diseases in more distant parts of the body. Derangement of the temporal mandibular joint may produce a pain closely simulating atypical neuralgia, the treatment for which naturally is a reposition of the jaw, either by the intra-position of disc, or resection of the jaw,—a problem with which dental surgeons are much more familiar than I. Painful tic confulsif is a peculiar disturbance of pain of the atypical variety associated with a facial tic. The pain becomes aggravated during

the facial movements. Following section of the trigeminal route an occasional case occurs with a persistence of an entirely different type of pain than trigeminal neuralgia. This also occurs at times after patients have had an attack of herpes. Clinically myalgia of the neck muscle and true psychoneurosis present a closely allied group of symptoms.

The problem of treating this entire atypical group divides itself into two main sets: 1, removal of the primary cause, if found; and 2, blocking the nerve which would carry these pain fibres to the brain. Our knowledge of the route which these fibres take is by no means complete, and is one of the great problems yet to be discovered for the relief of facial pain. Could we block off all these routes by surgical measures, the problem of migraine, atypical neuralgia, post-herpetic neuralgia and trigeminal ghosts would be solved. Suffice it to say that these patients are a sorry lot, and due to their persistent pains a superimposed neurosis usually develops. This has led some to believe that the entire group is purely psychogenic. It is possible that a few of these cases are of a neurotic basis, but I am firmly convinced that the greater majority of them have an actual organic pain which we have, as yet, learned little about. It is extremely important to recognize this syndrome—mainly to be conservative and desist from useless surgical procedures, as well as the useless extraction of teeth.

CONCLUSIONS

I. Trigeminal neuralgia may be of a primary or secondary cause. It is a favourable type of neuralgia and relief may be brought about by trichlorethylene inhalation, alcohol injection, or surgery.

II. The neuralgias of the cervical, facial, glossopharnygeal and vagus nerve may be relieved by alcohol injection, or section of these nerves, and must be differentiated from dental otalgia.

III. Primary and secondary atypical neuralgia is an entirely different problem. Conservative therapy is indicated. The recognition of this disease is particularly important in order to prevent the carrying out of useless, radical measures.

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## *Conventions*

New Brunswick Dental Convention, Moncton, July 3-4, 1939.

Twenty-sixth Annual Meeting of the American Academy of Periodontology, Hotel Wisconsin, Milwaukee, Wisconsin, July 13-15, 1939.

American Dental Association, Milwaukee, Wisconsin, July 17-21, 1939.

Fifteenth Annual Session of the American Dental Assistants Association, Astor Hotel, Milwaukee, Wisconsin, July 17-21, 1939.
Lucile S. Hodge, Gen. Sec., 401 Medical Arts Building, Knoxville, Tennessee.

American Dental Society of Europe, Lausanne, Switzerland, August 5-9, 1939.
K. C. Campbell, Secretary, 88 Portland Place, London W.1., England.

Australian Dental Congress, Melbourne, August 21-26, 1939.

Nova Scotia Dental Association, Halifax, August 31-September 2, 1939.

Golden Gate Dental Congress, San Francisco, California, September 25-27, 1939.

Fifteenth Annual Fall Clinic of the Montreal Dental Club, Mount Royal Hotel, Montreal, September 27-29, 1939.
Chairman, Publicity Committee, Frank A. Edward, Medical Arts Building, Montreal, Quebec.

Sixty-third Annual Convention of the Eastern Ontario Dental Association, Chateau Laurier Hotel, Ottawa, Ontario, October 16-17, 1939.

# *Dr. Harold Clark, An Appreciation*

by THOMAS R. MARSHALL, D.D.S., Toronto, Ontario

AFTER 46 years as a dentist Dr. Harold Clark has given up active practice for a well earned leisure. He has always ranked among the foremost in our profession. When his voice is heard in our academic meetings his audience listens to words of wisdom, the fruits of a mind, well versed in modern dental procedure, but tempered by a wealth of experience. One so often hears the comment, "You would never believe a man of his years would have such a youthful viewpoint." Yes, Dr. Harold Clark is always up to date and the scope of his vision and interests is by no means confined to the profession which is the pride of his heart.

Dr. Clark was born seventy-seven years ago in the village of Newtonbrook, some nine miles north of Toronto, on Yonge St. His father, of United Empire Loyalist stock, was brought up on a pioneer farm in Prescott County in the Province of Ontario. His mother came from the north of Ireland.

The story of Dr. Clark's early life, as he tells it, recalls many interesting incidents. His father was a school teacher, graduating from the Toronto Normal School in 1856. In those days the annual remuneration offered a school teacher often did not exceed $400; but in spite of this, a good home was provided by frugal budgeting of the family income which was supplemented by keeping a cow, a pig, plenty of chickens and a well-cared-for garden. Mrs. Clark, the Doctor's mother, was a good cook, an excellent housekeeper and a clever needlewoman. She was more than that; her love of books and reading aloud contributed much to the cultural values of home life. In the villages and towns in which the family lived, the Doctor's home was usually the weekly rendezvous of the local highbrows—the minister, the physician, the miller, the wagonmaker and their wives. The entertainment consisted always of discussions and reading, and in this connection Dr. Clark recalls the enthusiasm with which they read and discussed the latest books from the pen of Charles Dickens.

In the Clark home, too, the boys had their regular tasks. In those days the cooking and house heating depended upon the wood-pile. The Doctor and his elder brother became experts with the buck-saw as they kept the big wood-box always full. In addition to this, the cow and pig and chickens had to be cared for and when summer came the garden was always a source of employment.

While living in Woodbridge the two boys, then ten and thirteen respectively, had their first opportunity to earn a little money during the summer vacation. They got jobs in the local barrel factory and worked sixty hours a week. From the money earned their father bought them "Chamber's Encyclopaedia." There were no movies, radios or gramaphones in those days for entertainment, so after the evening lessons were finished these big volumes were a continual source of entertainment and information.

When Dr. Clark was thirteen years of age, ill fortune came to his home. His father, who had been a life long sufferer from asthma, was forced to stop teaching. Circumstances now made it imperative that Dr. Clark and his older brother should leave school and seek permanent employment, to keep the family together. They both came to Toronto in 1876 and got work in the old Globe newspaper

office which was then located on King St., opposite to where the King Edward Hotel now stands. Thus the two boys began their careers and it is interesting to note that Dr. Clark's older brother is also a dentist. He graduated from Philadelphia Dental College in 1890, took up practice in Washington, D.C., where he is still practising.

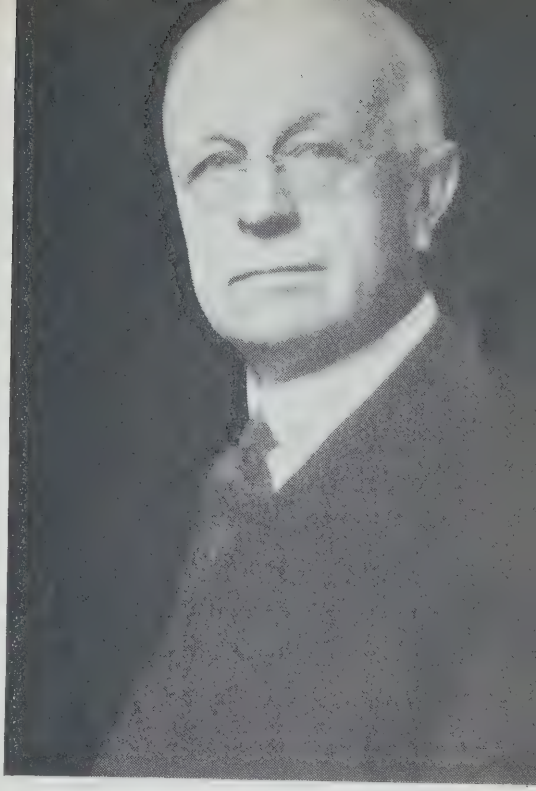
After working for two years in the Globe office, Dr. Clark decided he would like to get back to school. The manager of the Globe paper routes was interested in the lad's ambition so he gave him two routes and the first 200 papers off the press. Rising from bed at 3 a.m. he left his home on Queen St., opposite Trinity College grounds and tramped about delivering his papers in all weathers until 7.30 o'clock. This employment netted him enough money to allow his return to school. At the close of his one year at Ryerson School, he succeeded in winning two scholarships; one gave him two years' free tuition at Jarvis St. Collegiate and the other gave him two years' tuition at the Toronto School of Art. Buoyed up by these successes he tried to take advantage of both courses but after one term the strenuous studies, together with the paper routes, proved too much. He gave up his art studies and concentrated on his matriculation and a teacher's certificate. In 1881 he secured his license to teach from the County Model School at Yorkville, now Jesse Ketchum School. He then gave up his paper routes and became master of the old Davenport Public School at $400 a year. To use his own words, he says, "I felt like a plutocrat."

This was by no means the ultimate in his ambition. While teaching he prepared for his first class certificate which he obtained in 1883 from the Toronto Normal School. Then he became master of the public school in Brockton, a municipality west of Dufferin St., Toronto. In 1885 this little town was annexed to Toronto and in the fall of that year he became assistant master of the Wellesley Public School, and, in turn, master of old George St. School and finally of Duke St. School.

Before leaving Brockton School, however, Dr. Clark became interested in medicine and commenced his course in the old Toronto Medical School. This he followed for a time, then fate intervened and he decided that dentistry should be his vocation. Why the change? Well, a certain matrimonial ambition was being postponed too far into the future to complete the course in medicine. He was graduated in dentistry in 1893.

Dr. Clark opened his first office on King St. near Bay St., Toronto. In the fall term of the School of Dentistry of the Royal College of Dental Surgeons in Ontario, he was invited to take the chair of Materia Medica and Therapeutics. This post he accepted and retained creditably until his retirement in 1908. In 1902 he moved his office to the Temple Building where he has practised for the past 37 years.

Inheriting from his father a natural love of craftsmanship, he has found his professional duties interesting, indeed fascinating. In his many years of practice, Dr. Clark has watched with pride and enthusiasm the ever progressing achievements of his profession in ministering to the health, comfort and well-being of humanity. He tells the story of visiting the George Washington home at Mount Vernon in 1886 as the guest of an old school chum who was then Chaplain of Mount Vernon. Although not particularly interested in dentistry at that time, he was shown, and indeed was allowed to hold in his hands, the full upper and lower dentures of George Washington. These had been carved from two solid blocks of ivory and were held to their respective jaws by two



HAROLD CLARK

coiled springs, one in either cheek. It is said a French dentist was brought out from Paris to execute the service for which he received an enormous fee. Dr. Clark likes to compare this rather unique, extraordinary, dental restoration with what can be done for the unfortunate edentulous today. Many patients in recent years have told him that they are so comfortable they have no desire, even if they could, to have their natural teeth back again. But here Dr. Clark is quick to point out that while great studies have been made in perfecting modern dental prosthetic appliances, yet the greatest progress in dentistry is evidenced by a widespread consciousness in the value of dental care to promote a greater longevity of the natural teeth in health and comfort.

Aside from his practice Dr. Clark has always had time to lend his counsel to dental committees engaged in professional advancement. He was intimately associated with the late Dr. R. G. McLaughlin in promoting The Dentists' Legal Protective Association of Ontario from its inception and for many years he has been president of the Association. Dr. Clark has represented his colleagues on the Board of Governors of the Ontario Dental Society, the Toronto Dental Society and the Toronto Academy of Dentistry. He was elected a life member of the Toronto Academy of Dentistry in 1934, an honour he prizes highly and one that was accorded much commendation by his fellow dentists.

At the outset it was intimated that Dr. Clark's activities were not confined entirely to his profession. Perhaps he is a living example, to his colleagues, in this respect. A dentist must not have a one track mind and think of dentistry alone—there are many other phases of life worthy of his interest and support. For many years Dr. Clark was an active member of the Toronto Canoe Club. He is a charter member of the Canadian Club of Toronto. He assisted Dr. Vogt in organizing the Mendelssohn Choir in Toronto in 1894, acted as secretary for a time and was for many years Vice-President of the organization. He is a member of the Empire Club of Canada and was a member of its executive for a number of years. He is a member of the Royal Canadian Institute and was on its council for many years. Indeed the ramifications of Dr. Clark's interests are difficult to follow,

but a brief summary indicates to some degree the indefatigable manner in which he interested himself in the pursuits of his fellow citizens.

Yes, he had a hobby too; perchance the reader suspects he was never at home. Dr. Clark has a splendid library of 3000 volumes. In his workshop at his Muskoka home he has made many pieces of furniture. He has made himself two sun dials, by which, if the sun is shining, he can tell the time of day to within 15 seconds of observatory time. He is greatly interested in photography, still does his own developing and enlarging and printing and he has thousands of interesting pictures of subjects anyone would be proud to own. But it cannot all be told.

Yet before bringing to a conclusion a record of a few highlights in an illustrious career, it seemed fitting that perhaps Dr. Clark might have a short message for his friends and associates. And so a short note from his pen continues—

"You ask me if my forty-six years' experience in dentistry suggests any message that I might pass on. Several things come to mind but I shall confine myself to one only, and it, to me, seems the most important. I would address it specially to the younger graduates. I would say to them, "Remember, you are entering a profession." And what is a profession? Half a century ago dentistry was regarded as little more than a mechanical trade. Today it is universally accepted as an indispensable part of the healing art and health service for humanity. A business man or a manufacturer discovers or invents a process or device of use in his business. He keeps it a secret or fences it about with a patent all for his own exclusive advantage. A professional man discovers a new process or device, a better way of doing something, a new achievement, and immediately he writes a paper or gives a clinic setting forth his discovery to the whole profession. And why? If all the useful discoveries in the past had been kept under the hat of the man who made them, how little the profession would know today. To the man imbued with the real spirit of professionalism, service holds precedence over remuneration. Here it is perhaps necessary to admit that in both medicine and dentistry there are men for whom the lure of the fee leads them to be common racketeers, always studying how much their victim can be made to pay. Cronin, in his recent book, "The Citadel" holds them up to the contempt they deserve. Fortunately for us they are the exception that proves the rule. The rank and file of dentists, our representative men, have developed a fine spirit of professionalism. The man who devotes his interest and enthusiasm to the advancement of his profession and to the service of his community will discover that the remuneration will take care of itself."

It would seem a fitting ending to add a final thought concerning Dr. Clark's philosophy of living. One cannot engage in conversation with him about his life and accomplishments without realizing that he possesses a great heart, a cultured mind and a love for his fellow-beings. What has been the motivating influence behind his achievements? What is his creed? Dr. Clark just opens a pocket wallet filled with many literary gems and says, "Here it is, expressed better than I can express it,"—"My religion is one of reason and the human heart. It is the religion of the Lord's prayer, the Golden Rule and the two Great Commandments of Love to God and Love to Man. It stands for deeds, not dogmas; for hope and trust and worship, for freedom of thought and progress, not for bondage to the past; for earnest and united effort to build up the Kingdom of Heaven on earth. It teaches that truest service to God is service to Humanity."

# *The Relation of Dentistry to Medicine* *

by EGERTON L. POPE, B.A. (Queens), M.D., C.M. (McGill), F.R.C.P. (London), F.R.C.P. (Canada), Edmonton, Alberta.

*Professor of Medicine, University of Alberta.*
*Director of Medical Services, University Hospital, University of Alberta.*

IT IS a great pleasure, privilege and honour to be invited to address you on this memorable occasion. I do not know whether you regard medicine as a sister profession or whether you look upon us as the legitimate mother of dentistry. Depending upon that point I must needs keep in mind a proper sense of relationship to you, namely, either that of being a sister to you or else a species of fond parent.

In any case it would seem that the history of dentistry goes as far back into antiquity as that of medicine and that your beginnings were no less honourable than our own. I have not a doubt that both Adam and Eve suffered occasionally from toothache, possibly also from pyorrhea, or even from galloping gum-boils. It is open to question, however, whether or not they were afflicted with that highly dangerous public enemy that has become such a menace to our economic and social life. Needless to say, I am referring to that dread malady known the world over as pink toothbrush.

The first actual reference to the teeth that I have been able to find in the Holy Writ is in Genesis 49 and 12, in which Jacob blesses his son Judah in these words:

"His eyes shall be red with wine and his teeth white with milk."

Then again somewhat later, I find in the laws of Moses that there was passed some very drastic legislation. The statute reads to this effect:

"If any mischief follow, then thou shalt give tooth for tooth; and if a man smite out his man-servant's tooth or his maid-servant's tooth, he shall let him go free for his tooth's sake."

Later on, our poor old friend Job, in the midst of his inferiority complexes, says:

"All my inward friends abhorred me; and they whom I loved are turned against me. My bone cleaveth to my skin and to my flesh and I am escaped with the skin of my teeth."

In Jeremiah we read this prophecy:

"Every one shall die for his own iniquity; every man that eateth the sour grape, his teeth shall be set on edge."

In the book of Amos we find the first reference to oral hygiene:

"And I also have given you cleanness of teeth in all your cities and want of bread in all your places."

In Zechariah we read:

"And a bastard shall dwell in Ashdod and I will cut off the pride of the Philistines. And I will take away his blood out of his mouth and his abominations from between his teeth."

In Ecclesiastes, the preacher says:

"Remember now thy Creator in the day when the grinders cease because they are few; and the doors shall be shut in the streets when the sound of the grinding is low." Was there ever a more realistic pen-portrait of the old gentleman or the old lady, toothless and without dentures, almost silently masticating the food, the old and wrinkled lips tightly compressed to retain the nutriant pulp for grinding and storing?

* Presented before the Annual Meeting of the Alberta Dental Association, May, 1938.

Indeed, the history of dentistry, like that of medicine, is traceable through ancient Egypt, Etruria, Greece, Rome, and Arabia. With such a mighty tradition, one may say of the dentist as Shelley said to the poet:

"His wandering step,
Obedient to high thoughts has visited
The awful ruins of the days of old;
Athens and Tyre and Balbec and the waste
Where stood Jerusalem, the fallen towers
Of Babylon, the eternal pyramids,
Memphis and Thebes, and whatsoe'er of strange
Sculptures on alabaster obelisk,
Or jasper tomb, or mutilated sphynx,
Dark Aethiopia in her desert hills
Conceals."

I am informed that the papyri of ancient Eygpt, written 3000 years before the Christian era, contain references to remedies for small gingival abscesses, alveolar abscesses and caries, the three entities which the modern text-book of medicine describes as "oral sepsis." It seems that these remedies were largely of the gun-shot variety. No dental surgery was done, not even exodontia. Nature was permitted, for the most part, to take her course, with eventual, though not timely, spontaneous expulsion of filthy stumps and revolting corruption.

I learn also that half a century B.C., the treatment of teeth became the profession of specialists. Indeed, specialism became the order of the day in medicine as a whole. There grew into existence oculists, brain specialists, dentists, abdominal specialists, and general internists or diagnosticians. Herodotus in speaking of this epoch says: "The exercise of medicine (note that he calls it exercise) is regulated and divided amongst the Egyptians in such a manner that special doctors are deputed to the curing of every kind of infirmity; and no doctor (mark you) would ever lend himself to the treatment of different maladies." At this time, too, there are evidences of dentistry having expanded to the fields of fillings, pivots, and dentures. Wood and gold fillings are said to have been found in the mouths of mummies.

I learn also that in ancient Chinese writings, quite elaborate treatises on dental disorders may be found. For example, there are minute descriptions of nine different kinds of toothache. I myself can verify such a classification for in the course of a long and varied career I have suffered all of them. Moreover, caries, abscesses, and fistulae are all described and treated.

Yet it is to good old Aesculapius that scientific dentistry, like scientific medicine, may attribute its ultimate source. He is supposed to have lived between the twelfth and thirteenth centuries B.C., and there is recorded evidence of manual and instrumental extractions having been performed by the Asklepiadi or medical priests who were trained after the methods of Aesculapius.

In the works of Hippocrates, between the fourth and fifth centuries B.C., the two dentitions are described. He says "the shedding of the first teeth generally takes place at about seven years of age; those that come forth after this grow old with the man unless some illness destroys them. In the fourth septennial period of life there appear in most people two teeth that are called wisdom teeth." According to Hippocrates, extraction of teeth was to be done only when they had become loose. There was no chance for an exodontist in the set-up of Hippocrates.

The remote effects of oral sepsis are noted in Hippocrates' writings when he says, "If by effect of morbid sympathies, the morbid humour, instead of being thrown outward, be transported into an-

other region of the body, this constitutes the so-called metastasis."

Hippocrates thus quotes a case of oral sepsis: "In consequence of a violent toothache the wife of Aspasius had her cheeks swollen up but on making use of a mouth-wash of castoreum and pepper she found great relief"; and again, "Melisandrus suffered severe pain and swelling of the gums; he was bled in the arm. Egyptian alum is used in this malady, arrests its development"; and again, "Among those individuals whose heads are long-shaped, some have thick necks, strong members and bones; others have strongly arched palates, their teeth are disposed irregularly, crowding one on the other, and they are molested by headaches and otorrhoea." Here was the opening for orthodontia.

Another significant statement of Hippocrates is this: "When a person has an ulcer of long duration on the margin of the tongue, one should examine the teeth on that side to see if some one of them does not by chance present a sharp point."

I gather that there is much evidence in the Italian museums to indicate that prosthetic dentistry was practised by the Etrurians in a large way, and that the Etrurians were particularly skilful in bridgework. I am informed that in ancient Rome the practice of dentistry prevailed for a considerable time before the practice of medicine and that the Romans are credited with many developments.

I learn that in the eighth century and afterwards, the Arabians developed dental surgery by the invention of many gadgets including cauteries, scrapers, forceps for loosening and forceps for extracting, elevators, resectors, saws, and files.

I learn that in the eighteenth century, the tooth-brush made its first appearance and had a hectic career of trial and error before it became a permanent human institution.

More latterly, I have been much impressed with the possibilities of painless dentistry which I have always regarded as something of the nature of a paradox or a will-o'-the-wisp or a golf-score under ninety. Yet my own odontological adviser informs me that his juvenile patients play truant from school in order to enjoy the delights of an afternoon in the dental chair, electrocutionary type.

Still delving into the historical side of dentistry, I found myself curious to know the status of your profession in the writings of Shakespeare. Among many others I found these intriguing references to the teeth.

In the Tempest, Act 2, Scene 3, Stephano says to Trinculo, somewhat menacingly I fear,

"By this hand I will supplant some of your teeth."

In the Winter's Tale, Act 4, Scene 3, the clown speaks of Autolycus to the shepherd in an aside, running thus:

"He seems to be the more noble in being fantastical; a great man I'll warrant; I know by the picking on's teeth."

In King John, Act 1, Scene 1, Bastard says to the King:

"Now your traveller,—
He and his toothpick at my worship's mess;
And when my knightly stomach is sufficed,
Why then I suck my teeth."

King Henry the Fifth, in Act 3, Scene 1, invoking the warlike spirit, says in his role of propagandist:

"Now set the teeth and stretch the nostrils wide,
Hold hard the breath, and bend up every spirit
To his full height."

King Henry the Sixth, hurling insults at the Duke of Gloster, Act 5,

Scene 6, Part 3, says among other crisp and pointed things:

"Teeth hadst thou in thy head when thou wast born
To signify thou camest to bite the world."

Cariolanus in Act 2, Scene 3, gives a little gratuitous advice for the benefit of the citizenry:

"Bid them wash their faces,
And keep their teeth clean."

In Othello, Act 3, Scene 3, Iago relating his intimate experiences to Othello, says:

"I lay with Cassio lately;
And being troubled with a raging tooth,
I could not sleep."

In Richard the Third, Act 2, Scene 4, the Duke of York says to his Duchess:

"They say my uncle grew so fast
That he could gnaw a crust at two hours old.
'Twas full two years ere I could get a tooth."

In All's Well That Ends Well, Act 2, Scene 3, Lafeu says:

"I'll like a maid the better
Whilst I have a tooth in my head."

In Much Ado about Nothing, Act 3, Scene 2, when Benedick says:

"I have the toothache"

Don Pedro replies:

"Draw it"

and Benedick retorts:

"Hang it"

and Claudio interjects

"You must hang it first and draw it afterwards."

In this same play, Act 5, Scene 1, Leonata, Governor of Messina, says:

"I pray thee peace,—I will be flesh and blood;
For there was never yet philosopher
That could endure the toothache patiently,
However they have writ the style of gods
And made a push at chance and sufferance."

So much then for the traditions of the teeth and their place in the cosmos. In pursuance of my text, I feel disposed to mention two things which I believe are more or less perennial topics relating to your profession in the present day and generation.

One is the relation of dental disorders to the general health, and the other,—more or less consequential,—is the question of establishing dentistry as a specialty of medicine.

The relation of *maladies des dents* to *maladies du corps* is one that has been receiving a great deal of attention in the past few years. A stereotyped sort of prophecy has been in vogue ever since I was a boy in my first dentition. It has been prohesied again and yet again that humanity is destined to become a hairless and toothless race. Even if there be some element of truth in this, there is no need of the dentists of the near future to be looking around for another form of occupation. The economic factors of the profession are much more urgent than the evolutionary ones.

We have been always glad to accept the old proverb, *"Mens sana in sano corpore."* I am of the opinion that we may well dogmatize in a similar manner relatively to the teeth and thus revise the Latin to read: *"Den sanus in sano corpore."* There is probably no better example of the vicious cycle in medicine than in this association of the teeth with the general health. Body dysfunction causes dental maladies while dental maladies cause body dysfunction.

Thus the public health problems of Preventive Dentistry are perhaps no less important than the problems of Preventive Medicine. The prevention of caries in the growing child is one of the great concerns of civilization. It was in 1929 that a group of American pediatricians pointed out that caries in childhood was explainable by the fact

that the child's diet was inadequate because it was determined largely by the child's likes and dislikes, and lacking supervision. It was found that fondness of sugars and starches led to the omission of the more necessary ingredients such as high mineral and vitamin content, the fundamentals provided by a sufficiency of cod liver oil, orange or tomato juice, milk, vegetables, and fruits as items of the daily bill of fare.

In 1929, '30, and '31, May Mellanby in England made an exhaustive study of the effects of diet upon various animals and upon a large number of children, some 835. The conclusions drawn were that a sufficiency of vitamins A. and D. were necessary for the prevention of caries and that the character of the diet is of the greatest importance in infancy and early childhood. It seems that diet has much less influence after the eruption of the permanent teeth. Cod liver oil and viosterol are substances furnishing the necessary source of the fat soluble vitamins required in the development and preservation of the teeth.

A highly interesting observation was made upon the islanders of Tristan de Cunha, a small British possession in the South Atlantic. These people are said to live on a maintenance diet of potatoes, penguin's eggs, fish and vegetables. Their diet is devoid of cereals because the rats of the island render it impossible to grow oats, rice, and cereal crops. The islanders are therefore without bread. It would seem then that cereals neutralize the effect of vitamin D. which is so important from the dental point of view. In support of this it has been noted that dental caries in Great Britain is more prevalent in the so-called "porridge areas" north of Yorkshire. Curiously enough the islanders of Trisdan de Cunha, although living on a cereal-free diet and having no tooth-brushes, yet have almost perfect teeth. It is suggested that they get a plentiful supply of vitamins A. and D., the A. vitamin supporting the periodontal tissues and preventing pyorrhea, while the D. vitamin causes the formation of a plentiful supply of secondary dentine which is a measure of "the resistance of the living tooth to caries."

The subject of focal infection in relation to the teeth is a large one, too large and too involved for a post-prandial discourse. Suffice it to say that the presence of dental sepsis does cause general debility with anaemia, loss of weight and strength, as well as localized metastatic lesions such as iritis, arthritis, endocarditis, and nephritis. Many alimentary disorders and the myalgias may be traced to this origin. It must be admitted that prolonged and useless physiotherapy and drug treatment are not infrequently pusued when well selected dental treatment might be almost miraculously effective. But let it be equally emphasized that there may be danger of unnecessary sacrifice of teeth when cause and effect have not been suitably rationalized.

The final topic that I would mention is the establishment of dentistry as a specialty in medicine or in other words the advisability or otherwise of the sacrifice of dentistry as a distinct profession and its absorption as a specialty under the aegis of the medical profession, pari passu with the oculists, laryngologists, urologists et al. I understand that in Belgium and in Italy, this latter condition already exists, dentists being required to take a full course in medicine before specializing.

Many enthusiasts in the United States are promulgating the doctrine that dental practice as it exists today should be changed so as to occupy the position of a medical specialty and that the routine mechanical work of dentistry

should be executed by suitably trained technicians. Many of your profession have registered an emphatic opposition to any scheme of combined education, claiming a traditional professional status which they would hesitate to relinquish. To quote one writer upon this subject: "No man in the wildest stretch of his imagination can argue that the science and art of dentistry have not advanced to an infinitely greater perfection under the present plan than it possibly could as an appendage to another calling. Shall all our splendid traditions be buried beneath the wreck of the iconoclast? We shall gain little in respect and we shall lose much, even in the minds of the better element of the medical profession, by the attempt at this late date to attach ourselves to the band-wagon of medicine and trail along behind like the little dog that has been clipped for the occasion."

It seems, therefore, that you as a profession are far from being united in the proposal of unification. In the language of an editorial writer in the Canadian Medical Journal: "Our expectation is that in the fulness of time whenever that may be, the professions will unite and those who specialize in dentistry will not feel that they belong to an 'appendage to another calling', or are any more submerged than those who specialize in other medical fields. We feel, however, that initiative in the matter should be left quite with the dental profession, and that our attitude should be that of sympathetic interest and readiness to co-operate in any reasonable plan for fusion."

In concluding, let me impress upon you that the sustaining ideal of the medical profession is the ultimate destruction of the necessity of its existence. This may appear to be a paradox. It is impossible for the finite mind to imagine such Utopian conditions. Nevertheless, it is a sustaining philosophy and gives to the medical profession its peculiar urge, its peculiar interest, and a peculiar activity with which your profession is peculiarly allied. With your incorporation in it as odontologists you may enjoy a similar urge, a similar interest and similar activities which are no less altruistic than those which you now cherish.

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*The art of getting on with people lies not in the attracting of attention but in the holding of it. A nervous, excitable person will attract immediate notice, but, instead of holding the interest, the display of uncontrolled energy will rapidly tire onlookers as surely as does a fidgety child.*

*A man cannot hope to press home his arguments if he is continually shifting from one foot to the other, moving his hands, or shifting his head and eyes. These movements serve to distract the attention of the listener, and the lack of concentration which invariably accompanies this waste of energy will result in a complete lack of conviction.*

*Decide now to check all involuntary waste of energy in yourself. Become conscious of your physical actions at odd moments of the day. You will find it a pleasurable practice to stop suddenly in the midst of some useless fidget and experience a mental clearness that was lacking a moment previously. The calmness of mind which it promotes, and the knowledge of complete control over mind and body, will build up a new self-confidence.—Health and Efficiency.*

*In my opinion, the members of the dental profession use less of their opportunities than do any other profession, and if their many handicaps were recognized and overcome, they might rank higher in income than any other professional body.*

*—Harry G. Morton, Milwaukee, Wis., in Jour. of A.D.A.*

# Problems in Practice

Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

**PROBLEM FROM MANITOBA:**

Do you find frequently in your practice an ear-ache caused from an infected tooth? If so, is it always the ear on the side of the face where the dental pathosis exists or does it at times cause a pain in the ear on the opposite side? In other words, do you find that reflex pains of dental origin pass to the opposite side of the head?—*Dr. X.*

**REPLIES FROM UNITED STATES:**

Occasionally I have observed patients with ear pain that was secondary to a dental disturbance. The pain has always been on the same side as the dental disturbance.—*Louie T. Austin, D.D.S., Section on Dental Surgery, Mayo Clinic, Rochester, Minn.*

My answer is, no. I do not remember ever having seen a *case* of *ear-ache* in which there was unmistakable evidence of a relationship between the pain complained of and the infected tooth. Were such relationship to exist in a given case, I would hardly expect to find reflex symptoms occurring in the ear on the side opposite to that in which the tooth was located. This could only occur, as I understand it, in those cases in which a chronically infected tooth on one side of the face, might be the cause of a secondary infection in some other part of the body, as for example, in the ear which might be on the opposite side of the face. The pain which might develop in the ear under these circumstances would not be a reflex from the infected tooth but the result of a local disturbance in the ear itself caused by the secondary infection.—*Arthur H. Merritt, D D.S., New York. (Dr. Merritt is President-Elect of the American Dental Association and President of the American College of Dentists.*

**REPLY FROM NOVA SCOTIA:**

Pain arising in any area supplied by a nerve may be referred to any other area supplied by the same nerve. The teeth and their associated structures are supplied by the fifth cranial nerve, which is also a part of the sensory nerve supply to the ear. Therefore pain in or about a tooth may be referred and felt as "ear-ache." The nerve branch of the fifth cranial nerve to the ear is the "auriculo-temporal" which is given off the mandibular branch of the fifth cranial. It is for this reason that pain from a lower tooth is more likely to be referred to the ear than is pain from an upper tooth.

It is quite impossible that pain on one side of the head could be referred to the opposite side. There are other causes for referred pain in the ear. One such cause, common in children, is adenoids. It is possible, therefore, that a patient might have a painful tooth on one side and referred pain in the opposite ear; this would not be due to the tooth, but to some other cause, such as adenoids, etc., which might also exist at the same time. —*J. Stanley Bagnall, D.D.S., Halifax.*

**REPLIES FROM QUEBEC:**

In the Infirmary of McGill University Dental School which is situated in the Montreal General Hospital, we receive a great many referred cases from the various Departments, and infrequently patients will go to the Ear, Nose and Throat Clinic complaining of an ear-ache, and finally will be referred to the Dental Department. Frequently the ear-ache is relieved by the removal of a non-vital molar tooth, rather than the removal of an apical primary focus of infection. We have no record of a case in which the primary focus was on one side of the maxilla and the secondary on the other side. Theoretically, it could happen, but clinically no cases of such a nature have been found.—*Arthur B. Walsh, D.D.S., Montreal.* (*Dr. Walsh is Dean, Faculty of Dentistry, McGill University.*)

The so-called ear-ache due to the infected tooth is really an irritation of the Gasserian Ganglion. It is highly improbable that an infected tooth would cause an inflammation in the Gasserian Ganglion on the opposite side of the face. A thorough history of the case will probably bring to light other causes of the above mentioned pain, such as infected tonsils, acute rhinitis, Vincent's angina, and any number of such infections.—*F. A. Saunders, D.D.S., Montreal.*

**REPLIES FROM ONTARIO:**

Otalgia (ear-ache) is not infrequently found to have a cause of dental origin. The exact location of the dental pathosis is sometimes extremely difficult to determine.

We do not find that reflex pains of dental origin cause otalgia. This is readily accounted for if the anatomy of the nerve supply to these regions is studied. The tympanic plexus is connected with the second division of the fifth nerve on the same side by means of Meckel's ganglion through certain branches. Pain from the infected tooth, therefore, or from an infected area in the mouth can be deferred to the ear by these nerve connections but it does not cross the median line.—*A. D. A. Mason, D.D.S., Toronto.* (*Dr. Mason is Dean, Faculty of Dentistry, University of Toronto.*

Ear-ache from an infected tooth, I believe, is not a true ear-ache, and is not referred to the opposite side. It is due to the auricular temporal nerve, a branch of the seventh, which passes upward in front of the ear, and is mistaken for pain in the ear. I am sure every practitioner has seen this, and the terms have been used loosely. I think the statement should be made that the pain is a referred one, anterior to the ear and not in the ear. That is my opinion.—*Fulton Risdon, F.R.C.S. (C)., Toronto.*

I occasionally find that patients suffer with ear-ache from an infected tooth, especially from unerupted third molars. I doubt very much if the ear actually becomes infected from an infected tooth, the same as it might from an infection in the nose, but there is no doubt that pain seems to register there.

I am satisfied, in my own opinion, that reflex pains do not cross the median line. —*Frank S. Jarman, D.D.S., Toronto.*

In a very short answer to your question I can say *yes.* It is quite common to find reflex pains of dental origin that pass to the opposite side of the head.—*John A. Bothwell, D.D.S., Toronto.*

**REPLY FROM SASKATCHEWAN:**

This question might be approached from the standpoint of anatomy and that of experience.

The late Dr. G. V. Black considered that since the dental pulp is completely surrounded by hard tissue and thus shielded from outside influences, with

the exception of thermal changes, it is really an internal organ, and subject to all the vagaries as to location of pain as found in the other internal organs. The sense of touch is a localizing sense and exists in all parts of the body that can ordinarily be touched, but it is not needed in the internal organs. The sense of location is present in the peridental membrane, but absent in the pulp. Any irritation to a dental pulp, therefore, whether caused by infection, thermal shocks or trauma, may produce reflex pains in any area supplied by the fifth cranial nerve. Since the auriculo-temporal branch of the inferior maxillary division of the fifth nerve supplies the auricle and the external auditory meatus of the ear, pain from a dental pulp may be reflected to the ear. Each of the fifth pair of cranial nerves has its deep origin in opposite hemispheres or lateral halves of the cerebellum. As a result reflex pains of dental origin would be confined to the side of the head affected. Experience has frequently demonstrated that pulpal irritation may produce a reflex pain in the ear, the side of the head or in any tooth of the maxilla or mandible, but always on the side where the irritated pulp is situated.—*F. C. Harwood, D.D.S., Moose Jaw.*

**REPLY FROM ALBERTA:**

Ear-ache is seldom, if ever, due to a dental infection. There is no reason, however, why a secondary infection could not occur in the ear from an original infection in the mouth. On the other hand pain in the vicinity of the ear is quite common, and may be due to a reflex from the mouth to the distribution of the auriculo-temporal nerve.

I consider quite definitely that reflex pains do not pass to the opposite side of the head. I may also say that I confirmed this in the opinion of our neurologist, Dr. H. H. Hepburn.—*W. Scott Hamilton, D.D.S., Edmonton.* (*Dr. Hamilton is Assistant Professor of Exodontia and Oral Surgery, School of Dentistry, University of Alberta.*)

**REPLIES FROM BRITISH COLUMBIA:**

Although I have frequently noted an ear-ache caused by an infected tooth, the pain has always been on the side of the face where the cause existed.—*Emery Jones, D.D.S., New Westminster.*

I have not had occasion to have a patient with ear-ache caused from an infected tooth, present himself.

It is possible to have reflex pains of dental origin pass to the opposite side of the head. These cases, I would say, are very rare. Often reflex pains will occur in the upper jaw when the infected area is in the lower jaw on the same side and vice versa. — *W. J. Gibson, D.D.S., Victoria.*

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*Keep the power of laughing at yourself. Stand before the mirror and burst into laughter! It will keep you from taking yourself too seriously. The capacity of a man to laugh at himself determines how high he has risen.*

*There are these stages: the lowest—the man who doesn't laugh at all; then the man who laughs only at his own jokes; then the one who laughs at the jokes of others; and highest of all is the man who can laugh at himself. For the power to laugh at oneself shows the power to look at oneself objectively.—Dr. E. Stanley Jones in "Victorious Living."*

# The Forum

## • THE FUTURE OF DENTISTRY

by HAROLD HILLENBRAND, B.S., D.D.S., Chicago, Ill.

FROM time immemorial, when not occupied with the stringencies of his present or with the pleasurable achievements of his past, man has concerned himself with his future. Although there is little that he can do actually to dictate the events that are to come, he wisely makes plans in keeping with his best, present knowledge to direct and control them.

In looking to the future, however, two dangers immediately present themselves. The first mistakes signs of promise for signs of achievement; it confuses hope with realization; it does not distinguish between desire and fulfilment. The result of this is to build to an obvious disappointment when eventual achievement falls far short of the glowing prospectus that has been prepared for it.

The second danger that is met in a contemplation of the future lies in the underestimation of the powers and abilities men have with which to confront those problems; in too small a faith in man's resourcefulness to meet new situations and to adapt himself to changing ones. Such an outlook leads, of course, to a dismal plain on which mediocrity and failure are the constant guideposts for the future.

It is interesting to apply this dilemma in prophecy to those who contemplated the future of dentistry a hundred years ago. The visionary who gazed with over-optimistic eyes at the future, even in his wildest imaginings, could not have seen what modern dentistry would achieve. The other, with his forecast of doom and disappointment, probably created for himself a picture that is made negative by the thousand achievements of modern dentistry and the men who practise it.

In our short examination of the future of dentistry, it would be well, perhaps, to avoid both of these extreme positions and to take, if possible, the one between that realizes difficulties but also understands the capacity to overcome them.

Any consideration of the future must be based upon an intimate knowledge of what the past has gained and of what the present has achieved. Dentistry has made much progress. It has changed its mechanical concept of practice for a biologic one; it has raised its standards of education and licence; it has sought out and developed new materials for new purposes; it has borrowed methods and procedures from other arts and sciences and put them to its own particular use. All of these may be considered as events which the history of dentistry thus far includes. What is to be said of the future?

It requires no gift of vision to foretell that dentistry will move forward on at least five fronts: education, research, success in establishing the cause of dental caries, children's dentistry and the relations between the profession and government.

On education the entire future of dental practice is predicated. A lowering of standards or a dispersal of its present forces will inevitably reflect in the capacities of those who will practise in the time to come. Conversely the influences that are now so ably at work in dental education will likewise have a similar force, in an opposite direction, if they are continued.

The future of dentistry can also be

foretold in terms of the work that will be carried on in the research laboratories. Out of them will come the evidence on which to form new concepts or alter old ones. Out of them will come the basis on which to elaborate the already existing relationships between the teeth and the rest of the body. Out of them will come new facts and new theories that easily may influence the future of dental practice.

The work that is leading to an eventual solution of the problem of dental caries will also have a very important bearing on this future. If the causative factor is systemic, dentistry must enlarge its outlook so that it can administer a competent dental service on that basis. If the cause is eventually assigned to local influences, some other alteration in dental practice will necessarily follow.

Dentistry for children will assume increasing importance in the future because it is the basis of any thorough-going program of prevention. If the problem of dental caries is solved the influence on the practice of dentistry for children will be tremendous, and it is very likely that this will make a definite imprint on all future dental practice.

In the past few years there has been an increase in the firmness of the bond that exists between a profession and the government of the people whom that profession serves. In earlier years this relationship was largely one of regulation in which government saw to the establishment and maintenance of licence standards, to giving service to those in extreme poverty and to rendering assistance in matters of the public health. The vast social and economic changes that have been at work during the past decade have brought about an increased interest on the part of government in the practice of dentistry. Future relations between these two agencies might well concern systems for the universal distribution of dental care through the intervention of federal or state administrations, or the complete control of dental education and dental practice through state dentistry. The future has much to make clear in a definition of this new relationship.

*Harold Hillenbrand, B.S.D., D.D.S., is editor of the Bulletin of the Chicago Dental Society and instructor in Economics, Chicago College of Dental Surgery, Dental School of Loyola University, Chicago.—Committee on Co-operation of the American Assoc. of Dental Editors.*

## • THE CLEVELAND PLAN

ACCORDING to the plan sponsored by the Economics Committee of the Cleveland Academy of Medicine, Clevelanders may insure themselves against the financial strain of doctor's bills when illnesses severe enough to require hospitalization overtake them. After discussion and study, the plan has had the stamp of approval placed upon it. When all details are taken care of, it will be placed before the body of the Academy for a vote.

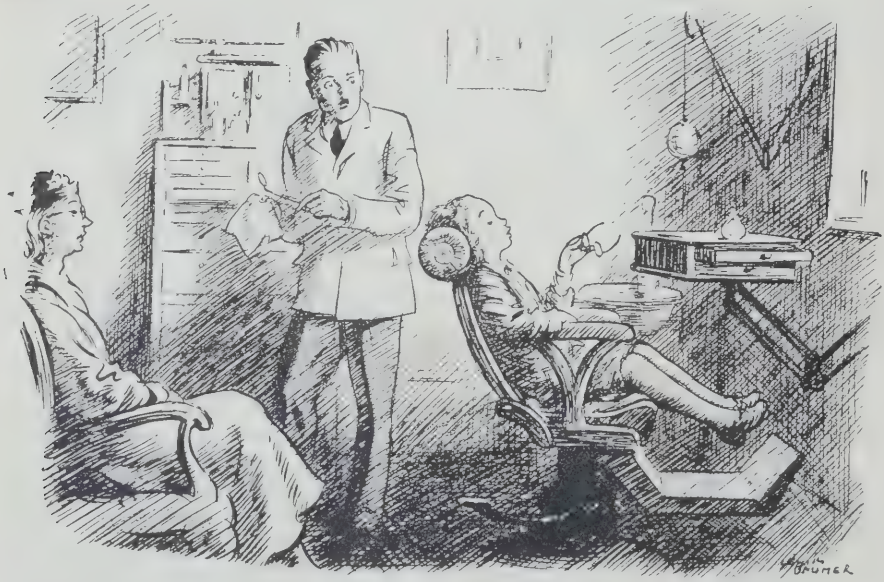
As it now stands, seventy-five cents a month, or nine dollars annually, would give Clevelanders medical insurance. An allowance of $6 daily would be given towards meeting the cost of physicians' bills. Up to twenty-one days of hospitalization would be allowed during the year, which figured up, makes a maximum of $126 per annum. Since the problem of socialized medicine has caused heated discussion all through the United States, this Cleveland plan will be closely examined from coast to coast. The Chairman of the committee proposing the plan asserts that the plan offers a method to meet the cost of severe illness which in no manner affects the status of doctor and patient or causes any of the changes in the private relationship between doctor and patient which the A.M.A. opposes. The President of the Academy has issued

statements saying that this idea will be of great help to those who are not yet dependent on charity or relief and yet find it almost impossible or very difficult to meet the financial cost of their illnesses. If the plan is a success in Cleveland it will no doubt be the spearhead in a frontal attack upon the financial problem which faces all who meet with illnesses that sometimes turn out to be a financial catastrophe.

The Cleveland Hospital Service Association has been a pronounced success to date. Because of this, the committee is certain that their plan, operated in conjunction with the Hospital Service for the benefit of those persons only, who are already members of this Service, will offer these subscribers additional insurance. The Service now has more than 100,000 members. These, depending upon whether they ask for semi-private or private service, pay annual dues of either $7.20 or $9, and receive a maximum of 21 days hospitalization, in any one given year.

The rate of admittance in the semi-private service of Mt. Sinai Hospital was studied by the committee. This survey disclosed many interesting facts, chief among which was that the average length of hospitalization was 12 days, the average cost of physicians' fees being $50. Under the plan sponsored by the Economics committee any patient staying in the hospital for 12 days would receive an allowance of $72 against his physician's fee. There would be no additional charges of any sort for anaesthesia, etc.

Colds, chicken pox, measles, vaccinations, all these are the medical ills which an average family must expect during the course of the year. The report of the Service Association for February showed that 439 patients were admitted, all members, and that their financial ratings were as follows: 14.6 per cent had incomes ranging from $1600 to $2000. 28.8 per cent ran from $1000 to $1500, while the great bulk were individuals who earned well below $1000.—*N.Y. Jour. of Dent., March,* 1939.



*The child.* "PREMOLAR, LOWER JAW, LEFT SIDE, PLEASE, MR. ROBINSON."

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# *Dentistry as a Career*

Bulletin 72-73 was published on February 5, 1939, by the National Bureau of Economic Research of the U.S.A., dealing with incomes from independent, professional practice. The subject-matter was collected by the Department of Commerce, then studied and compiled by Simon Kuznets and Milton Friedman. Five professional groups were covered and, on the basis of the data obtained, the ranking of the various professions in order of size of net income was as follows: consulting engineers, certified public accountants, lawyers, physicians and dentists, the positions assigned to consulting engineers and lawyers being the most doubtful, according to the report.

Special reference is made to dentists and physicians and it is in these statements that we are particularly interested. According to the estimates, the average, net income during 1929-34 was $4,100 for physicians and $3,100 for dentists. On the average, the net income of physicians exceeded that of dentists by approximately 32 per cent. This difference is accounted for by the fact that there is a variation in the period of training, medicine requiring

eight to ten years following high school, and dentistry requiring five to seven years, which increases the cost of medical education, shortens the period during which a physician can expect to earn an income, and, more important than either of these, is the cost resulting from the postponement of income. It is pointed out, also, that one is more likely to receive an exceedingly poor income or an exceedingly high income from the practice of medicine than from the practice of dentistry, and this diversity of income reacts in favour of medicine. To this economic attraction is added such abstract and intangible factors as the social prestige which accrues to the practice of medicine and the opportunity it offers for rendering service and making "social contacts." The net advantages are thus definitely on the side of medicine, in spite of the fact that marriage may have to be postponed and that the choice may involve less regular and possibly longer hours, less personal freedom, and greater physical and mental strain.

The result of this preference for medicine has been that during the period covered by the data, between 12,000 and 13,000 persons applied annually for admission to American medical schools, while apparently less than 3,000 sought admittance to dental schools. The total number of graduates of medical schools in the United States averaged 5,000 as compared with 2,000 for the American dental schools.

To many the practice of dentistry offers advantages over the practice of medicine, but this is not the opinion of the large majority of our young men. In recent years 40 to 50 per cent. of the applicants for admission to American medical schools have been rejected while the corresponding percentages as applied to dentistry are undoubtedly very much lower. This fact, at the very outset, gives medicine an advantage over dentistry, since, obviously, the medical schools select the ablest of the applicants, and many of those rejected eventually find their way into the dental profession. This is a grave problem for the dental profession and it can be solved only by making the conditions of dental practice sufficiently attractive to appeal to a much larger percentage of the more brilliant intellects among the young manhood of this generation.

This will not be accomplished by lowering the standards of dental education. Within recent years, some of the leading schools for nurses have raised their admission standard to a university degree, with the result that they have had more applications than formerly and from a much finer type of young woman.

Furthermore, the whole viewpoint of dental practice will require revision. Dr. Felix French, of Ottawa, said in a recent, far-sighted address given before the Academy of Dentistry in Toronto, that the next great advance in denture prosthesis must be along biological rather than mechanical and engineering lines; that physiological as well as physical laws operate to determine the success or failure of a restoration; that we understand the physical forces which govern the behaviour of artificial restorations but that our knowledge of the physiological forces which govern the behaviour of denture-bearing

tissues is almost nil. The writer is of the opinion that when the average dentist begins to approach the denture problem from this angle, we will not have our mechanics attempting to obtain legislation to permit them to take impressions for artificial dentures. The denture must meet the requirements of a living organism and is not just a mechanical device constructed, perchance, on an anatomical articulator by a skilled mechanic, who has never seen the party who will wear his masterpiece. Dr. Paul Stillman also states that when thought turns from anatomy to physiology some very valuable knowledge will be found which can be applied to dental prosthesis.

Dr. Stillman has further pointed out, in a recent communication to the writer, that the day has arrived when we must renovate dental thought; that dentists must be liberated from the blind technology of the present; that we have seen the effects of disease but we have not comprehended the causes; that our perspective of occlusion should be physiological rather than anatomical, and that the fact of life-present must now be permitted to enter our dental thought; that we must all go forward on a new road, called biology, and our major interest should be health, not disease; that more knowledge exists even now than mankind can intelligently use for his arts. Will dentistry use this knowledge?

With such a concept of the practice of dentistry as a branch of the healing art, our profession will interest many capable and ambitious young men to whom our present dental outlook makes no appeal. With such men of vision and with their resultant accomplishments, the question of prestige, of excellence of service, and of financial compensation will be taken care of automatically, and the gap between the practice of dentistry and the practice of medicine will be finally bridged.

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## BOOK REVIEWS

**Histopathology of the Teeth and Their Surrounding Structures,** by Rudolf Kronfeld, B.S., M.D., D.D.S., Professor of Dental Histology and Pathology, Chicago College of Dental Surgery, School of Dentistry, Loyola University, Chicago, Illinois; Former Assistant at the Dental Institute of the University of Vienna, Austria: Second Edition, thoroughly revised. Octavo, 504 pages, illustrated with 438 engravings. Published 1939 by Lea and Febiger, 600 S. Washington Square, Philadelphia, Pa. Cloth, 7.00 net.

The text of this book has been rearranged and completely rewritten to conform with the suggestions of the Report of the Curriculum Survey of the American Association of Dental Schools. Among the subjects included are: anomalies in shape and number of teeth; physiology and pathology of tooth calcification; Hutchinson's teeth and mottled enamel; erosion; bacteriology of caries; pulpitis, and periodontitis; focal infection; pulp amputation; healing of extraction wounds; Vincent's infection; discolourations and stains; some of the diseases of the oral mucosa; and differential diagnosis of toothache and of cysts of the jaws.

We, as dentists, should make it a point to read and study the findings of our outstanding research workers. For this reason, as well as for the fact that to practise dentistry successfully in these days one must be well informed

on many subjects other than the strictly mechanical, this book should be perused very carefully. It will prove most interesting and helpful.—*M. H. G.*

**Dental Disease—Its Chemical Causation and Cure,** by R. G. Torrens, B.A., B.D.Sc., T.C.D., Honorary Dental Surgeon to the Royal Victoria and West Hants Hospital, Bournemouth, England. 12 diagrams, 241 pages. Published by Henry Kimpton, London, 1938. Cloth, 10/6 net.

The author has been interested for many years in the work of Dr. F. W. Broderick and more recently in that of Dr. J. E. R. McDonagh and feeling that there was much therein that was difficult for the general practitioner to follow, he has endeavoured to assist him in understanding the fundamental facts upon which their theories were founded. He treats the subject in three main parts. "The first part supplies the basic ideas of modern atomic structure in so far as they form a foundation for the application of colloidal chemistry in its electronic nature to the constitution of the blood plasma; and, as such, electronic activity then becomes the basic force of bio-chemistry." "The second part deals with the application of the principles enumerated to diagnosis. . . ." "The third part shows how to apply those principles to treatment and offers a new conception of drugs and their effects which, if perhaps revolutionary, is none the less rational."

To the practitioner, the chapter on Treatment of Dental Disease is perhaps the most interesting. The author recognizes that each case must be treated on its own merits but his suggestions should be very helpful from a research standpoint and observations by the dentist in a large number of cases would be of great benefit. Many of the common oral conditions are discussed and suggestions made. His chapter on Case Notes is not limited to purely oral conditions. Many of the cases cited are in the field of general medicine and perhaps encourage the dentist in co-operating with the medical practitioner.—*Kenneth M. Johnson.*

**The History of Dentistry in Missouri;** compiled and published under the direction of the History Committee of the Missouri State Dental Association. Cloth, 600 pages. Published 1938 by The Ovid Bell Press, Inc., Fulton, Missouri.

The History of Dentistry in Missouri contains a brief but very interesting summary of the highlights in the practice of dentistry in ancient times followed by a survey of the dental organizations within the State of Missouri, the Code of Ethics, dental laws and local publications. It contains biographical notes of the founders and presidents of the Missouri State Dental Association and dentists from the districts outside of the St. Louis and Kansas City districts.

Since the first dental practitioner settled in Missouri 129 years ago a history of dental practice in this State constitutes in reality a rather comprehensive history of the development of dentistry in the United States.

The Committee in charge of this splendid enterprise has done a tremendous amount of work and has produced a volume which should be a stimulus to other dental organizations to obtain and record facts relative to their own early history before it is too late.—*M. H. G.*

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*Yeats once described how he looked at the medal given to him by the King of Sweden as part of his Nobel Prize award. On it he found a decorative design of a young man listening to a Muse, and he added: "I was good-looking once like that young man, but my unpractised verse was full of infirmity, my muse old, as it were; and now I am old and rheumatic and nothing to look at, but my muse is young."*

*—Manchester Guardian.*

# NEWS FROM THE PROVINCES

*MANITOBA:*

**Winnipeg Dental Society**

The annual spring appearance of the dental golf shooters who make up a fraction of the Winnipeg Dental Society took place Monday, May 15, at Elmhurst Golf Course. The native ball hunters, who find one's lost golf balls and sell them back to you at a slight reduction, report that many of the former enthusiasts are at it again this year; about 40 in number.

In the four events contested for each season the low scores were secured by Dr. Ben Toombs, Dr. M. A. Deagle and Dr. T. N. Belden, in three of them, and Dr. J. O. Brown and Dr. E. Wallace tied for the fourth.

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**Dental Nurses and Assistants**

Another successful year was brought to a close on May 1 when the Winnipeg Dental Nurses' and Assistants' Association held a banquet in the Rose Room of the Princess. A Life Membership was conferred upon Miss L. C. Veal, one of the original members, by Mrs. Donald Black. During the evening a beautiful bouquet of American Beauty roses was presented to Mrs. Black, who was retiring after a two-year term as president, by Miss Eileen Haddick.

Following the annual reports, Miss R. Corbett installed the new officers for 1939-40, which are as follows: President, Miss M. Inkster, Vice-president, Miss M. Bachynsky; Secretary, Miss K. Ray; Corresponding-secretary, Miss P. Hamlin; Treasurer, Miss J. Kunynski; Program, Miss J. Green; Membership, Miss H. Wylie; Social Convener, Miss E. Green; Sick and Visiting, Miss J. Gordon; Editorial, Miss A. Warren.

*ONTARIO:*

**Renfrew County Dental Society**

On April 28, Dr. Sidney Bradley, of Ottawa, addressed the Renfrew County Dental Society, at Renfrew, on x-ray Diagnosis and Technique. On account of his extensive experience in this work Dr. Bradley was able to give a most instructive and a much appreciated talk. Dr. Bradley uses a medical type x-ray machine so that the discussion on technique was different and quite informative.

Previously, on February 10, Dr. Frank Martin, of Toronto, gave a clinic to the Society at Pembroke on "Impression Technique for Full Dentures." At this meeting Dr. Martin carried out his technique on a patient and also illustrated his methods by moving pictures and many models. Since this meeting the boys report fewer denture troubles, so, needless to say Dr. Martin's clinic was a success.

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**Dental Camera Club**

The Seventh Annual Exhibition of the Dental Camera Club was held Thursday evening April 27. Professor G. R. Anderson of the University acted as judge, assisted by Dr. Ellis and Dr. Corrigan, members of the Staff of the Faculty of Dentistry, and Mr. Crowley.

The cup for the best picture in the show was won by "Winterset," entered by Dr. Margaret Cowan. The cup for the best undergraduate print was won by "Light Airs and Baffling" entered by Mr. H. A. Hunter. The awards were as follows:

LANDSCAPE:

First—"Winterset," by Dr. Margaret Cowan.

Second—"Spring Breakup," by Dr. F. L. Coles.

Honourable Mention—"Moonlit Trail," by Dr. J. C. Stevenson.

NATURE STUDY:

First—"Harbinger of Spring," by Dr. W. W. McBain.

Second—"Beauty in the Mire," by Dr. W. W. McBain.

MARINE:

First—"Light Airs and Baffling," by Mr. H. A. Hunter.

Second—"Full and By," by Mr. H. A. Hunter.

Honourable Mention—"Harbour at Evening," by Dr. S. M. Richardson.

ANIMAL LIFE:

First—"The Quarrel," by Dr. S. M. Richardson.

Second—"Moth," by Dr. S. M. Richardson.

ARCHITECTURE:

First—"A Winter's Night Scene," by Dr. L. T. Lloyd.

Second—"Das Nene Rathans," by Dr. L. T. Lloyd.

GENRE:

First—"The Glistening Guardsman," by Dr. L. T. Lloyd.

Second—"Industrial Beauty," by Dr. W. W. McBain.

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**Graduation in Dental Nursing**

The graduation exercises for the class in Dental Nursing took place in Convocation Hall of the University of Toronto on June 7. This year's class was limited in number to fifteen young women, as it was felt that this would be sufficient to meet the needs of the profession.

The members of the class were carefully selected from among the applicants for their personal qualities especially fitting them for this work, as well as for their academic standing. The teaching of the fundamental principles, in the Course in Dental Nursing given by the Faculty, makes the dental nurses very receptive and readily adjustable to the particular system followed in any office.

Seven of these young women are from elsewhere than Toronto and would be available for position almost anywhere. The others who are citizens of Toronto would prefer to have positions in their home city.

Any dentist desiring the services of a dental nurse may obtain information by telephoning the Dean's office—KI 0012, or writing to the Faculty of Dentistry, University of Toronto, 230 College St., Toronto.

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**The Ontario Dental Nurses' and Assistants' Association**

TORONTO:

The April meeting was given over to the last lecture of a Study Club arranged by the Academy of Dentistry. Four lectures have been given—two on "Dental Anatomy" by Dr. H. W. Hoag, one on "Office Administration" by Dr. Chas. McLean; and the fourth on "Prosthetics" by Dr. Irvin Ante, showing slides in colour, of progress models. At the conclusion of his lecture, Dr. Ante showed a coloured movie of his trip to the Western Coast. A hearty vote of thanks was given to the Academy for this splendid study course which has proved so helpful to all who were able to be present. Clinics and posters for the coming Ontario Convention were planned. An invitation was accepted to attend the Hamilton Dental Assistants' meeting on April 18. On April 24 the members made a tour of the new Globe Mail building.

The May meeting of the Toronto Chapter was held in the Royal York Hotel, when arrangements were made for the annual meeting in June. Following the business session a delightful talk on the "Arrangement of Flowers" was given by Mrs. Percy Waters, which was enjoyed by everyone. Miss Ellen Tuck gave a paper on "The Public Health Dental Service for School Children," which was very instructive. New books were presented to the "Dr. C. N. Johnson Memorial Library."

HAMILTON:

The regular April and May meetings of this Chapter were held with a large attendance at both. In April the speaker was Mr. Wallace, Manager of Silverwood Dairies, Limited, Kitchener. He spoke on "Milk in Relation to Health and Beauty" and brought out many instructive points.

In May the meeting was held at the I.O.D.E. Headquarters and a bus-load of Toronto members was welcomed as guests of the evening. The speaker of the meeting was Mr. W. J. McCullock, of the Hamilton Spectator, his subject being "The European Merry-Go-Round." He told many interesting things about the European situation and was given a very hearty vote of thanks. A book on the "Life of Madame Curie" was received from the Thunder Bay Chapter, as a gift to our new library. The meeting ended with a social half-hour and refreshments were served by the Hamilton members.

LONDON:

At the April meetings a report of the recent Convention in Detroit was given, after which followed a question-box and a very interesting discussion. Plans for the Ontario Convention were made. Several members were absent owing to illness.

In May the meeting was held in the office

of Dr. Fred Kennedy, and following the business session a very splendid talk and discussion on "Personality and Charm" was led by Miss Irene Chapman, General Secretary of the London Y.M.C.A.

WINDSOR:

The April and May meetings of this Chapter included a discussion on "Answering the Telephone" and "Collections." Plans for a Mother and Daughter Banquet were made.

The annual election of officers took place at the May meeting. Tribute was paid Mrs. Irene McNair, retiring president, for her splendid work during her term of office. The following officers were elected: President, Miss Fern Taylor, Vice-president, Miss Dorothy Scott, Recording-secretary, Miss Janet Hamel; Corresponding-secretary, Miss Mae Donaldson; Treasurer, Miss Winnifred Grier.

THUNDER BAY:

The April meeting was given over to business. Material for the table clinics to be given at the Ontario Convention was assembled, and the making of posters was planned. In May further plans were made. Miss Ruth Garland was chosen as representative to the Convention in Toronto, to give the Clinic and read the Chapter Paper.

*QUEBEC:*

**15th Annual Fall Clinic Under the Auspices of the Montreal Dental Club September 27-29, 1939, Mount Royal Hotel, Montreal.**

CLINICIANS

Dr. C. O. Simpson, St. Louis, Mo.
Dr. D. E. Woodard, Kansas City, Mo.
Dr. G. V. Lundquist, Chicago, Ill.
Dr. C. E. Bastian, New York.
Dr. G. J. James, Cleveland, Ohio.
Dr. L. J. Porter, New York.
Dr. W. J. MacGilvra, Worcester, Mass.

There will also be a series of Table Clinics by the Ottawa Dental Society.

*F. A. Edward, Chairman of Publicity.*

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**Montreal Dental Club**

On May 17 the members of the Montreal Dental Club met in their Club Rooms to listen to an address on "Dentistry and the Law," delivered by Phillip Brais, Esq., K.C. It was a surprise to many to discover how interesting and absorbing such a subject could be and how little the average dentist knows about the laws pertaining to his profession.

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**Dental Meeting at McGill**

Dr. Minor Terry, of Albany, New York, addressed a large gathering of Montreal dentists, assembled in the ballroom of the McGill Faculty Club, under the chairmanship of Dean A. L. Walsh.

Prior to this address Dr. Jonathan C. Meakins, Professor of Medicine at McGill University and Physician-in-Chief to the Royal Victoria Hospital, spoke to the teaching staff of the Dental Faculty of McGill who were dining at the Faculty Club.

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**Mount Royal Dental Society**

The annual meeting of the Mount Royal Dental Society was held on April 29, 1939, at the Mount Royal Hotel. Following the President's reception at 6 P.M., dinner was served. Reports from the various officers and committees were read and the tenor of the reports showed that the Society had made very good progress during the year. One outstanding feature was the report of the chairman of the group on "Office Routine." Many suggestions were laid before the Society, and when they are considered and adopted should prove of benefit to every member. The election of officers for 1939-40 resulted as follows:—

*President*—Dr. J. R. Persk.
*Vice-president*—Dr. I. N. Pesner.
*Secretary*—Dr. Louis J. Rosen, 1410 Stanley Street Montreal.
*Treasurer*—Dr. P. J. Gitnick.
*Assistant Secretary-treasurer*—Dr. S. Hershon.
*Librarian*—Dr. G. Zimmerman.
*Ex. Officio*—Dr. G. Franklin.
*Members of Executive without portfolio*—Drs. S. Cripps, C. I. Finklestein, E. A. Kutzman, F. Mendel, and D. H. Muhlstock.

Dr. Franklin, the retiring president, was presented, on behalf of the Executive, with a beautiful pipe, as a token of their esteem. The presentation was made by Dr. Gitnick.

**In Memoriam Resolution**

RESOLVED:

that the Montreal Dental Club make expression of its sense of loss and sorrow in the passing of Dr. John S. Ibbotson, past-president and life member.

RESOLVED:

that we here record his high sense of duty to his chosen vocation, his qualities of comradeship and his sterling character as a gentleman.

RESOLVED:

that we recognize his share in the establishment of the dental profession in this province. Dr. Ibbotson was dental surgeon and chairman of the Dental Department at the Montreal General Hospital for a number of years. He was a member of the board of governors of the College of Dental Surgeons of the Province of Quebec from 1912 until 1915 when he was made registrar, and became President in 1916, which position he honoured until 1919. For over fifty years he practised his profession, a dentist appreciated and loved by his patients and an example to his confrères.

RESOLVED:

that a page be set aside in our minute book and that these resolutions be spread thereon, that copies be sent to the dental journals and that a suitably inscribed copy be sent to his family with our profound sympathy.

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**Montreal Dental Nurses' and Assistants' Association**

The members of the Montreal Dental Nurses' and Assistants' Association held their study group meeting in Dr. J. C. Flanagan's office on April 18, when Dr. Flanagan gave a practical clinic on the preparation of cavities for gold inlays. A very pleasant evening was concluded with the serving of refreshments.

On May 2 the regular monthly meeting was held in the Club Rooms, Medical Arts Building, with Miss Barber presiding. J. W. Gerrie, M.D., D.D.S., gave a very interesting talk on "Some Aspects of Plastic Surgery." A social evening followed.

*NOVA SCOTIA:*

**Halifax Fire**

The investigations into the cause of the Queen Hotel fire at Halifax, in March, have been completed but no decisions have been announced. In this disaster, the worst of its kind in the history of Nova Scotia, twenty eight people were burned to death. Twelve of these remained unidentified. The medical examiner relied upon the dental records as the main source of identification of the other sixteen. In some cases the dentists were personally able to assist in what is naturally a peculiarly gruesome examination. One can never tell when complete dental records may be of tremendous importance and for this, if for no other reason, we should take pride in keeping these records complete in every detail.

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**N.S. Dental Association Convention**

The 49th Convention of the Nova Scotia Dental Association will be held in Halifax, the datês being August 31 and September 1 and 2. It will again take the form of a refresher course. Two outside clinicians Dr. Daitch, of Boston, periodontist, and Dr. Ennis, of Philadelphia, x-ray expert, will be present. The Dalhousie dental staff will furnish the rest of the program in which an attempt will be made to cover the more important recent advances made in the profession.

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**Congratulations to Dr. Rice**

Rather belated congratulations are due to Dr. J. H. H. Rice in his role of impresario. The opera which he recently presented with local talent in Halifax was not only an artistic but also a financial success.

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**Dental Trailers**

The Oral Hygiene Committee of the Nova Scotia Dental Association announces the regulations governing the use of the dental trailers throughout the province. One trailer will be available about June 1 and all indications are that it will be extremely busy thereafter. Details of the work undertaken will be supplied when they are compiled. The committee in charge, deserve great credit for the very efficient way in which they are carrying on this extremely important work in con-

junction with the Department of Public Health.

*ALBERTA:*

**Alberta Dental Act**

In the closing days of the 1939 session of the Alberta Legislature, a new Dental Act for the Province of Alberta was introduced as a private bill.

There was very active opposition on the part of two or three members. On a final vote on the third reading before the Committee of the Whole the result was a tie. The Chairman cast a deciding vote against the Act and so no legislative change resulted at this session of the Legislature.

The untiring efforts of Dr. R. A. Rooney and Dr. L. V. Janes, in the face of continuous opposition and delay, should be greatly appreciated by every member of the Association.

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**Edmonton Dental Society**

The following was the program at the April meeting of the Edmonton Dental Society: Dr. Harry Gilchrist discussed the various types of artificial posterior teeth. Dr. Scott Hamilton gave a paper on "The Odontomas," and had a patient present. He also showed x-rays of a particularly interesting case. Dr. A. Gemeroy gave an excellent paper on the systemic effects of various types of vaso-constrictor elements in local anaesthetic solutions.

On May 2 the Society elected the following officers for the coming year: President, Dr. D. R. McNabb; Vice-president, Dr. V. M. Lloyd; Secretary-treasurer, Dr. R. L. Scharff; Social Convener, Dr. W. P. Calhoun. Dr. Faust Gowda, retiring president, gave a résumé of the past year's activities which were very successful, and he reported a membership of fifty. The outstanding activity of the year was the organizing, on the part of the Society, of the means to send Dr. Harry Gilchrist, Professor of Prosthetics, of the University of Alberta, to New Orleans, where he attended a course in full denture prosthesis with Drs. Tuller and Fournet. On his return he was able to demonstrate this technique to a large group of dentists in Edmonton and points throughout Alberta.

It was unanimously approved that an invitation be extended to the Western Canada Dental Society to hold the 1941 convention in Edmonton. It was also decided to hold monthly golf meetings during the summer.

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**Calgary Dental Society**

The Calgary Dental Society held its April meeting at the Renfrew Club. The speaker of the evening was Dr. E. M. Doyle, who gave a very interesting talk on "Dentists and Dentistry since the Formation of the Province of Alberta in 1905."

The following is the newly elected slate of officers for the coming year:

President, Dr. H. N. Heal.
Vice-president, Dr. J. E. Hesson.
Secretary-treasurer, Dr. D. C. Haworth.

*SASKATCHEWAN:*

**Regina Dental Society**

The Regina Dental Society held its annual meeting, and the final meeting of the season, in the Drake Hotel, on April 25. The new officers elected for the coming season are: President, Dr. W. Fraser Smith; Vice-president, Dr. Hugh Kennedy; Secretary-treasurer, Dr. H. R. Kerr.

A committee was appointed by the Society to investigate and study all phases of "State Dentistry." The members of this Committee are Dr. T. S. Robb, Dr. E. W. Mounteer, Dr. C. H. Parker, Dr. M. R. Parkin, and Dr. C. H. Weicker.

The Society extended to Dr. J. R. Hoag and his bride, the best wishes of the members on their recent marriage, and presented them with an appropriate gift.

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**Moose Jaw Dental Society**

The annual and closing meeting for the season of the Moose Jaw Dental Society was held in the Grant Hall Hotel on May 9, with the President in the chair.

The annual election resulted as follows: President, Dr. Duff Leask; Vice-president, Dr. L. F. Hare; Secretary-treasurer, Dr. Harold Johnston.

Dr. James Miller, a local physician, gave a very comprehensive and interesting talk on "Focal Infection" in general, including oral infection as a causative factor.

# EMPIRE NEWS

*GREAT BRITAIN:*

### National Service

*(Excerpt from Editorial in May 1 issue of the British Dental Journal.)*

The change in the character of war, brought about by the rapid development of the bombing aeroplane, virtually places the civilian population of any belligerent nation in the fighting line and the partial evacuation of all particularly vulnerable places, and more especially large towns, would seem to be a necessary measure of passive defence. Such a wholesale migration will, on the one hand, lessen the civilian demand for ordinary dental treatment in the evacuated area, and on the other hand will create an unusual demand in the reception areas. Generally speaking there will be areas where the ratio of dentists to population is normally lower than that which obtains in the larger towns, and it may be taken for granted that in many cases it would be necessary to make some temporary provision to augment the numbers of the profession available for the treatment of the civilian population. The migration of the school service would be a relatively simple matter but the migration of dentists in ordinary civilian practice would obviously raise many difficulties both in evacuated and reception areas as well as for the individual and a conscientious dentist might well be glad to leave to an impartial tribunal the decision as to whether his duty lay most with those of his patients who perforce remained in a danger zone or with those who had been withdrawn from it.—*Bryan J. Wood.*

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### Dental Emergency Committees

As part of the organization of the British nation for defence purposes, there has been set up in London and Edinburgh Central Dental Emergency Committees which are charged with the duty of making arrangements for the supply of dental personnel for the Navy, Army and Air Force as well as for any other special purposes during any National Emergency. In addition some 40 District Dental Emergency Committees have been set up in different parts of the country to assist in carrying on the work of the Central Committee. A National Register has been formed on which is entered particulars of any work of National importance which a dentist is willing to undertake in a time of emergency. So keen is the profession to do its share that 85% of the total number have responded to the appeal to enrol on this Emergency Register.

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### Army Dental Corps

The Director of Army Dental Service is inviting applications from dental surgeons for appointment to commissions in The Army Dental Corps. Candidates, who should not be over 28 years of age, will for the present be selected for commissions without competitive examination, but will be required to present themselves in London for interview and physical examination. They must hold the degree or diploma of a British University or College of Surgeons and be registered under the Dentists Acts or Medical Acts. Successful candidates will, in the first instance, be given short service commissions for six years, at the end of which period they will retire with a gratuity of £1,000, unless they have been granted permanent commissions. Permanent commissions will be given to officers selected from among those who wish to make the Army their permanent career.—*Br. D. Jour. April 15, 1939.*

*SOUTH AFRICA:*

### President's Address

*(Excerpts from the address of Dr. R. V. Bird, President of the Dental Association of South Africa, at the annual general meeting held at Durban, March 7, 1939. This Association represents 520 dentists in South Africa.)*

My experience has taught me that, as a group, the dental profession is peculiar. In the main, its members are individualists. They are prone to concern themselves more with the happening of the moment than with the participation in co-operative effort which, in the long run, must prove to be of general benefit. They find it difficult to detach themselves from their own surgeries and do not realize that they are essential cogs in the wheels of dentistry.

The status of a profession depends upon the thoughts and actions of its members. The standards which a profession maintains in any particular town or country may be high or low. These standards are set by the profession itself, through its particular organization, working through the statutory bodies set up to protect the public interest. These standards must be set by the Dental Association of South Africa.

The progress of the Association and the dental profession in South Africa must depend upon:—

1. The manner in which each individual dentist conducts his practice.

2. The contribution which each individual practitioner makes towards the activities of his local branch.

3. The careful impersonal consideration and debate of all matters presented at branch meetings.

4. The realization by branches that the Federal Council is the profession's parliament.

5. An efficient secretarial staff. This is essential so that the views and opinions and instructions of the Federal Council and its Executive Committee may be expressed in proper form to the Government and other public authorities. It is also the only means of maintaining close and constant contact between the constituent members of the Association.

*SOUTH AFRICA:*

**Operating Without An Anaesthetist**

A case was recently brought to the notice of our Medical Council in which a medical practitioner performed an operation, administering the anaesthetic himself. The patient died on the operating table and, as a result of this case, the Council has found it necessary to introduce new regulations on the subject. Dentists are permitted to continue the practice of giving nitrous oxide anaesthesia for simple extraction operations, but when multiple or difficult extractions are necessary and prolonged anaesthesia is required, the Council has ruled that a second registered practitioner must be present to administer the anaesthetic.—*The Dental Magazine and Oral Topics, January,* 1939.

*INDIA:*

**Dental Legislation**

Dr. R. Ahmed in his annual report for 1937-8 of the activities of the Calcutta Dental College and Hospital, states that the outstanding event during the past year was the passage of the Bengal Dentists' Bill through both houses of the Bengal Legislature. The hope was expressed that the Act would be brought into force at an early date, as this would lay down a standard curriculum of studies in dental science and also provide for registration of qualified dentists in the province.

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# GENERAL NEWS

**Minnesota Legislature Enacts Barbital Law**

The 1939 session of the Minnesota legislature has enacted into law a bill prohibiting the sale of barbital and any derivative of barbituric acid, or any compound containing a derivative of barbituric acid, except on the written prescription of a doctor of medicine, a doctor of dental surgery, or a doctor of veterinary medicine, lawfully practising his profession in the State of Minnesota.

Subdivision 1 of Section 5 of the law provides:

"A licensed doctor of medicine, or a licensed doctor of dentistry in good faith, and in the course of his professional practice only, may prescribe, administer, and dispense barbital, or he may cause the same to be administered by a nurse or interne under his direction and supervision."

Drug stores are forbidden by law to sell barbital, or any preparation containing barbital, or a derivative of barbituric acid, except upon the written prescription above referred to.—*North-West Dentistry, April, 1939.*

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**The Future of Dentistry**

In September, 1939, in San Francisco, and in March, 1940, in Baltimore, three-day celebrations will be held to observe the birth of American dentistry as a scientific profession.

As many as can should plan to attend either or both of these meetings. All should give to the projects an enthusiastic and wholehearted support. Never again in the life of any living person will there be presented to dentistry an opportunity of such importance. This is our profession. To it we owe much. We are proud of its progress. We have faith in its future, but that future will depend upon what you and I do in the present. Let us join in making this first centenary of American dentistry an event, worthy of a great profession.—*Arthur H. Merritt, D.D.S., New York City.*

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### A New Journal

The Balkan States—Albania, Bulgaria, Greece, Jugoslavia, Rumania and Turkey—are now to have their own medical journal. The new journal—*Archives Balkaniques de Médicine, Chirurgie et leurs Spécialités*—is the first of its kind in the Balkans, and will deal with all branches of medicine and surgery, including stomatology. The journal will be published quarterly in the French language, and will be printed on paper suitable for illustrations. Each issue will contain not less than 160 pages of text matter.—*D. Mag. and Oral Topics.*

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### Plan for Hospital Care is Now Enrolling Members of the Chicago Dental Society

The enrolment of members of the Chicago Dental Society in the Plan for Hospital Care began last week, on authority of the Board of Directors, and will continue until May 5. After that time, because enrolment is made only on a group basis, no applications can be considered.

The plan offers protection against almost all charges of hospital care for a fee, for the single individual, of $9.60 annually. The cost for an individual plus one family member is $18 annually. The charge for an individual, plus two or more family members is $24 per year.

At the present time there are 121,000 members of the Plan in metropolitan Chicago. More than 1,500 civic business and industrial organizations have made the Plan available to their employees in this area.

The total number of days that have been used by the membership is in excess of 67,000 days of hospital care. In 1939 the Plan will pay 15,000 hospital bills with a total saving to members of more than $700,000.—*Chicago D. Soc. Bul., 4/21/39.—A.D.A. Release.*

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### To Train Dental Interns in Army Hospitals

The U.S. Army is for the first time undertaking to train dental interns in its hospitals. Announcement of this new departure, seen as a development that will make the Army dental service more effective as a health service, was made by Brig. Gen. Leigh C. Fairbank, Chief of Dental Staff, U.S. Army, at the meeting of New York's Second District Dental Society. Brig. Gen. Fairbank is the first dentist to reach this rank in the Army.

Outstanding graduates of dental schools this year will be chosen for the new Army hospital internships.—*Science News Letter—4/1/39.—A.D.A. Release.*

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### Canadian Dental Association Research Committee

The Canadian Dental Association Research Committee desires to help any person who wants to do research on a dental problem. If you have such a problem and desire assistance, financial or otherwise, answer the questionnaire below and send it to the Secretary, Dr. Fred C. Husband, 12 Bloor Street East, Toronto, Ontario.

Name: .....

Address: .....

Degree: .....

Where graduated: .....

Post-graduate studies, if any: .....

Describe any research which you have done:

.....

Make reference to any article you have published: .....

State in detail what your problem is: .....

Do you propose to carry on an investigation in conjunction with some institution? .....

If so, where? .....

—*Fred C. Husband, D.D.S., Secretary.*

### Mail Order Dentures

The United States mails are again closed to S. B. Heininger who conducted a mail order denture business under a variety of names. This decision was handed down on April 17 by Associate Justice Miller, of the United States District Court of Appeals for the District of Columbia, who reversed a previous decision and dissolved an injunction which permitted Heininger to carry on his practices.

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### Present Day Germany

I gather that in the Germany of today the medical outlook has greatly changed. Not only is academic life as a whole discouraged and the number of doctors on the decrease, but there is a decidedly different attitude towards patients and illnesses preached. The final aim being the "Healthy and Vigorous Nation," and not the healthy individual. The interest in curing the individual has greatly dropped, especially the interest in curing constitutional diseases such as disturbances of metabolism or mental disorders. "The Falling must be Pushed," as Nietzsche put it. A law exists today that sufferers from certain hereditary diseases have to be sterilized—compulsorily if necessary. You will find in the German medical periodicals today that articles on eugenics and research into hereditary diseases figure prominently, and encroach on the other branches of Medicine.—*Dr. Philipp in University of Durham School of Medicine Gazette, March, 1939.*

•

### Minnesota Recommends Increase in A.D.A. Dues

At the meeting of the House of Delegates of the Minnesota State Dental Association in Minneapolis in February, one of the resolutions passed that aroused particular enthusiasm was of national significance. It favoured an increase of two dollars in the dues of the American Dental Association, provided that certain steps would be undertaken by that group. The resolution asked that reasonable assurance be given before the meeting of the House of Delegates of the national association in Milwaukee in July, 1939, that when and if the increase in dues becomes operative, the American Dental Association will employ:

1. A well qualified full time executive secretary.
2. A well qualified and experienced representative to spend his full time watching and reporting legislative developments and proposals that may affect the practice of dentistry and performing such other duties relative to legislative changes as may be assigned to him.
3. A full time well qualified Director of Professional Relations whose duties will be the promotion, co-ordination, and elevation of state association activities and a general increase in membership in the various state associations to the end that there will be a more uniform, representative and active organization of dentists in America.—*Oral Hygiene, April, 1939.*

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### Dental Educational Council Reports

Number of students enrolled in Dental Schools of United States, 1929-1939.

| | |
|---|---|
| 1928 - 1929 | 8,200 |
| 1929 - 1930 | 7,813 |
| 1930 - 1931 | 8,129 |
| 1931 - 1932 | 8,031 |
| 1932 - 1933 | 7,508 |
| 1933 - 1934 | 7,160 |
| 1934 - 1935 | 7,175 |
| 1935 - 1936 | 7,306 |
| 1936 - 1937 | 7,397 |
| 1937 - 1938 | 7,184 |
| 1938 - 1939 | 7,331 |

Number of Graduates from Dental Schools in the U. S., 1933-1938.

| | |
|---|---|
| 1932 - 1933 | 1,986 |
| 1933 - 1934 | 1,864 |
| 1934 - 1935 | 1,840 |
| 1935 - 1936 | 1,736 |
| 1936 - 1937 | 1,739 |
| 1937 - 1938 | 1,704 |

—*A.D.A. Release.*

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### Specialists in Germany

Before any doctor is allowed to call himself "specialist," and to practise as such, he has to undergo a special training in his particular branch. Four years for Surgery or Gynaecology or Internal Medicine, three years for any of the other branches, are required. The doc-

tor spends these years as an "assistant" at one of the hospitals. After that period an application to a special committee has to be made, which decides whether the period and the responsibility under which the assistant has done his work is sufficient to entitle him to call himself specialist. No special examination is required. There are proportionately more specialists in Germany than in Great Britain and the fees being generally lower make the service of the specialist accessible to a large proportion of the population.—*Dr. Philipp in University of Durham School of Medicine Gazette, March, 1939.*

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### Registering Dental Technicians

The Chicago Dental Society, at its annual meeting held on Tuesday, April 18, at the Stevens Hotel, endorsed the action of the Board of Directors in opposing the licensing of dental laboratories and the registration of dental technicians.

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### Cancer of the Stomach

Theoretically, the way to prevent the occurrence of cancer of the stomach is to avoid those methods of eating and the mental and physical states which are responsible for abnormal congestions, hemorrhages in the stomach, the residual lesions of these hemorrhages, and finally the disorganization of the reparative phenomena.—*H. E. Robertson, M.D., Section on Pathologic Anatomy, Mayo Clinic, in Staff Meetings of Mayo Clinic.*

### Costs in Dental Practice

| | No. 1 Gross incomes of $12,000 or more in Metropolitan centres | No. 2 Gross incomes of $9,000 or less in smaller communities |
|---|---|---|
| Rent | 10% | 9 % |
| Nurse or Secretary | 10% | 10 % |
| Gas, Electric, Water | 2% | 2 % |
| Taxes, Insurance, Society Dues | 4% | 3 % |
| *Dental Supplies | 5% | 8 %* |
| *Laboratory bills | 12% | 3½%* |
| Petty cash and laundry | 4% | 2 % |
| Total | 47% | 37½% |

*You will note that No. 1 Dental Supplies are less and Laboratory bills are more while in No. 2 the opposite is true. That is due in part, to the necessity for men in smaller centres to do their own laboratory work which means buying more supplies.

COMMITTEE ON ECONOMICS,
Theo. C. Blutau, *Chairman.*

—*Journal of the Second District Dental Society, March, 1939.—A.D.A. Release.*

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### Dentists in Palestine

There are 607 licensed dentists practising in Palestine. 579 of these are school trained and the remainder are apprentices who were granted standing at the time of the British Occupation. 301 of the total are women dentists and 306 are men. 25 are graduates of the American University, Beirut, and three of the French Faculty of Medicine, Beirut. The remainder represent 88 universities, dental schools and dental examining boards—British, American, French, German, Russian, Polish, Latvian, Greek, Turkish and Egyptian. This will give the reader a small idea of the international aspects of the profession in Palestine.—*D. Mag. and Oral Topics, March, 1939.*

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*A quarter of a century's experience in the treatment of the sick by dietetic methods has brought to the writer the conviction that there is hardly a disease in which wrong feeding is not the outstanding factor. . .*

*Even those maladies that are definitely assumed by medical science to be directly traceable to bacterial inroads, such as dysentery, tuberculosis and malaria, have the nutritional factor as their primary origin. The germ cannot produce the effect for which it is blamed without the proper soil for its growth and reproduction, and the proper soil is the deficient or polluted bloodstream that results from faulty diet.—Stanley Lief in "Where Do We Go from Here?" per Medley.*

**Premature Aging Ascribed to Mineral Starvation**

When an adult lacks vigour and becomes old before his time, he is probably suffering from long years of mineral starvation. This suggestion is made in the Journal of the American Medical Association (Feb. 4).

Lack of sufficient calcium and vitamin D in the diet is now known to be the reason why the bones of elderly persons become abnormally porous. "Senile osteoporosis" is the name physicians give to the general demineralization of the skeleton that is commonly present in elderly persons.

This condition over a period of many years may result also in pathologic changes in the kidneys and other vital organs and thus affect the general health, the medical journal declares.

Complete studies of mineral metabolism on normal or average persons in different age groups are recommended.

Too little effort has been made to understand or prevent the sicknesses that we have been accustomed to accept as an inevitable accompaniment of advancing years, the journal states.—*Science News Letter, February 18, 1939.—A.D.A. Press Release.*

# IN MEMORIAM

The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**George S. Martin,** of Humberstone, Ontario, aged 71, died April 16. He was graduated from the Royal College of Dental Surgeons, Toronto, in 1891. He practised at West Toronto junction until 1905 when he became manager of the International Dental Manufacturing Company. Later on Dr. Martin resumed practice in Sudbury. While there he was superintendent of the United Church Sunday School and held various municipal offices. His health caused his retirement to a fruit farm in Burlington but later he resumed practice in Humberstone until his death.

He always took a deep interest in his profession, and held prominent offices in the Ontario Dental Association and Toronto Dental Society, being twice President of the latter Society. Dr. Martin was Associate Editor of the Dominion Dental Journal. He was also a Mason and a Past Master of Stanley Lodge, A.F. and A.M.

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**J. F. O'Brien,** of Peterborough, Ontario, aged 57, died on April 15 following a three months' illness. He was graduated from the Royal College of Dental Surgeons, Toronto, in 1912. He commenced practice in Bancroft and left there to enlist in the Dental Corps in 1914. Following the War he commenced practice in Peterborough. He was a past grand knight in the Knights of Columbus Council; a member of the Separate School Board, the Dental Society and the Executive of the Boy Scouts' Association.

Dr. O'Brien is survived by his widow, one son, three sisters and three brothers.

•

**Carlyle Edward Cook,** of Port Alberni, B.C., aged 44, died suddenly on April 23 from a heart attack while on a hike to the Havilah Gold Mine.

He was graduated from the Oregon Dental School in 1920. A year or so later he came to Port Alberni and opened up the first permanent dental practice in that city. He was one of the district's most enthusiastic hunters and for years he served as secretary of the Fish & Game Protective Association. He was also a member of the Rotary Club and was serving his second year as a member of the School Board.

Dr. Cook is survived by his widow, two daughters, and one son; also by a sister and two brothers.

W. CECIL TROTTER
1873-1939

**W. Cecil Trotter,** of Toronto, Ontario, aged 66, died suddenly at his home May 14. He was graduated from the University of Toronto in arts in 1894 and in dentistry in 1896. He served on the Board of the Royal College of Dental Surgeons for many years and for ten years was a member of the Senate of the University of Toronto.

Dr. Trotter was one of the founders of the Canadian Oral Prophylactic Association and was Chairman of the Canadian Dental Hygiene Council. Some years ago he was accorded an honorary life membership in the Toronto Academy of Dentistry for his long service and unremitting interest in public health.

He was a member of the Church of England, the Toronto Hunt Club, the Canadian Club, the Royal Canadian Yacht Club and was a keen golfer.

In the death of Dr. Trotter the members of the Canadian dental profession have lost one of their most distinguished and outstanding members.

Dr. Trotter is survived by his widow; two daughters; one son, Dr. Trevor Trotter; and two sisters.

•

**Allan Gordon Campbell,** of Sarnia, Ontario, died unexpectedly at his home on May 14th. He was 43 years of age and had been ill only a short time.

Dr. Campbell, familiarly known by his intimate friends as "Scotty," was a well known and beloved citizen of Sarnia. He served in the Great War, enlisting in the 63rd Battery in 1916. Overseas he was transferred to the 23rd Howitzer Battery C.F.A. He practised dentistry in Sarnia for 14 years. During his early years of practice he was associated in partnership with Dr. F. M. Lott, who now occupies the chair of prosthodontia in the Dental Faculty of the University of Toronto.

Dr. Campbell was an honorary member of the Garrison Officers' Mess and member of Sarnia Branch No. 62, Canadian Legion. He was skipper of Sarnia Rover Sea Scout crew, a past president of Sarnia Kiwanis Club, a member of Sarnia Yacht Club and of the Men's Club of St. Paul's United Church.

He is survived by his wife, a daughter, Betty Ann and two sisters, Mrs. Guthrie of Sarnia and Mrs. Taylor of Toronto.

•

**Alexander A. McKenty,** of Toronto, Ontario, aged 62, died May 2. He was graduated from the Royal College of Dental Surgeons, Toronto, in 1903. He practised in Tweed and afterwards in Peterborough before moving to Toronto eighteen years ago. He retired in 1927. He was a member of St. Peter's Roman Catholic Church.

Dr. McKenty is survived by his widow, two daughters, two sons, one brother and three sisters.

## . . . SECTIO RANÇAISE . . .

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# *La chimie et ses relations avec la dentisterie* *


*Docteur es sciences physiques (Paris). Professeur agrégé de chimie générale à la Faculté des Sciences de l'Université de Montréal.*


On a coutume de reprocher aux chimistes de s'immiscer partout et de vouloir imposer à tous l'étude d'une science qu'on n'a pas encore été capable de définir, parce que le terrain qu'elle domine est trop vaste et s'étend chaque jour à mesure que les conquêtes des autres sciences découvrent des coins insoupçonnés.

Je n'ai pas à me justifier de traiter devant vous des relations de la chimie et de la dentisterie. Le Comité de votre Congrès m'a sollicité de le faire, je me suis empressé d'accepter cette agréable invitation.

Votre Comité avait d'excellentes raisons pour motiver le choix de cette causerie. De plus en plus, on constate le rôle prépondérant de la chimie dans la vie moderne. Nous sommes continuellement entourés de faits et d'idées qui respirent le laboratoire. Les chimistes modernes sont en train de renouveler la face du monde en substituant aux produits naturels des succédanés synthétiques. Les moyens de transport, le vêtement, la nourriture, les médicaments payent leur tribut à la chimie. En ce qui concerne ces deux derniers, il est de toute évidence que les dentistes ont de quoi s'intéresser à ce que la chimie peut leur apprendre.

Les agences de publicité, mettant en oeuvre toutes les finesses de la psychologie, impressionnent les acheteurs possibles en spéculant sur la soif d'information scientifique du public contemporain. La chimie est celle à qui on emprunte le plus fréquemment ses données et ses résultats. On a souvent accusé les professionnels de la réclame de prostituer la chimie au profit de produits d'hygiène et de beauté plus que

* Communication présentée au 4e Congrès des Dentistes de langue française de l'Amérique du Nord, tenu à Montréal, les 2, 3, 4 juin 1938.

douteux. Il importe donc d'être, un tant soit peu au courant de ce qui est vrai et de ce qui est faux dans ce domaine.

Ces points de vue sont très généraux. Ils pourraient être ceux de l'homme dans la rue. Les dentistes, tout comme les médecins, ont un stimulant d'ordre supérieur qui les entraîne à se demander comment la chimie peut les aider dans la pratique de leur profession. C'est l'argument scientifique.

Entendons-nous bien, dès le début. Il n'est pas question que le dentiste soit un chimiste ni que le chimiste puisse en montrer à un dentiste dans l'exercice de son art. La chimie, en effet, est une science trop complexe et trop captivante pour que l'on impose à tout practicien de la posséder. Il n'aura que faire d'une quantité de notions qui n'ont de valeur réelle que pour le spécialiste. Quant au chimiste, il ne se hasardera pas à faire une extraction ou un appareil de prothèse. Son rôle se borne à aider le dentiste dans les cas où celui-ci sentira le besoin d'avoir recours à sa science. Encore faut-il, pour cela, que le dentiste sache à peu près ce qu'il espère retirer de ses contacts avec le chimiste, et il ne peut le faire que s'il a déjà certaines notions élémentaires de chimie générale, biologique, physiologique et physique.

L'association des deux nous fait penser à la fable des membres et de l'estomac. Ceux-là servent celui-ci autant que ce dernier sert et fortifie les premiers. Quand les membres refusèrent de servir maître gaster, le viscère ne put réagir d'autre façon qu'en affaiblissant les bras et les jambes. Si le professionnel, médecin ou dentiste, refuse de s'assimiler l'indispensable petit bagage de chimie qu'on exige de lui dans les Facultés, il s'en ressentira bientôt, parce qu'il aura plus de mal à comprendre et à apprendre des matières qui deviennent d'une grande facilité si on les examine à la lumière des connaissances chimiques déjà acquises.

La dentisterie est à la fois un art et une science. En tant que science, elle entre dans le groupe des sciences biologiques. Et chacun sait que la chimie et la biologie font bon ménage. En tant qu'art, elle dépend de certaines recettes, de certains tours de main, de la qualité des matériaux qu'elle emploie et des sujets qu'elle traite. Nous n'allons pas aborder tous les aspects de cette question, mais nous en tenir à une rapide revue des acquisitions récentes dans les domaines suivants:

a) Constitution minérale et organique de l'émail et de la dentine.
b) Propriétés chimiques de la salive.
c) L'altérabilité de l'émail dentaire.
d) Les appareils de prothèse.

## Constitution Minerale et Organique de L'Email et de la Dentine

Le premier souci du chimiste, c'est de savoir à quoi il a affaire. Pour cela, il lui faut analyser tout ce qui lui tombe sous la main. Il y longtemps qu'on s'est préoccupé de connaître la constitution minérale des dents. Elles contiennent surtout du calcium, du magnésium, du phosphore, du carbone, de l'oxygène et de l'hydrogène unis sous forme de phosphates et de carbonates de calcium et de magnésium, d'eau et de chaux.

Les analyses récentes confirment ce que l'on savait à ce sujet. Les données de Crowell, Hodge et Line (1) sont les suivantes pour une dent entière, d'après 139 échantillons.

| | |
|---|---|
| $H_2O$ | environ 9% |
| résidu minéral | environ 81.6 % |
| comprenant | |
| Ca | environ 37.5 % |
| P | environ 16.3 % |
| Mg | environ 0.32% |

ce qui le conduit à attribuer à la partie minéralisée une formule probable: $3[(PO_4)_2Ca_3]$, $[CO_3Ca, Ca(OH)_2]$ ce qui rappelle singulièrement celle de l'apatite

$[(PO_4)_2Ca_3]_3$ Ca $(OH)_2$ avec du carbonate de calcium en plus. On avait déjà remarqué cette ressemblance et on a trouvé dernièrement, au moyen de la cristallographie de rayons X, que les formes cristallines des phosphates dentaires et de l'apatite sont pratiquement identiques.

Des analyses encore plus récentes ont été effectuées par Armstrong et Brekhus (2) sur l'émail et sur la dentine. Ces auteurs séparent l'émail, la dentine et le cément, qui ont été préalablement pulvérisés, par la différence de leurs densités respectives.

Les tableaux suivants renferment les résultats obtenus par ces auteurs sur une quarantaine de dents saines et sur une quinzaine de dents cariées.

| | Email de dents saines | Dentine de dents saines |
|---|---|---|
| Ca | 35.41% | 26.18% |
| P | 17.45% | 12.74% |
| Mg | 0.30% | 0.83% |
| $CO_2$ | 3.00% | 3.57% |
| N | — | 3.36% |

| | Email de dents cariées |
|---|---|
| Ca | 35.64% |
| P | 17.21% |
| Mg | 0.32% |
| $CO_2$ | 3.01% |

Ce qui indique, comme on l'avait déjà constaté, que la carie n'affecte pas sensiblement la composition minérale des dents, tout au moins de l'émail, hors du point où se produit la carie. Brekhus admet, toutefois, qu'on pourrait établir, après expérience, une relation entre la susceptibilité à la carie et certaines différences de constitution de l'émail. Il semblerait qu'une forte teneur en calcium favorise la tendance à la carie. Mais les différences très faibles et le manque d'analyses et de documents l'empêchent de se prononcer d'une façon plus catégorique.

En plus des éléments fondamentaux que les analyses anciennes avaient révélés et que les travaux plus récents n'ont pu que confirmer, les méthodes modernes, telles que l'analyse spectrographique, ont pu mettre en évidence la présence d'un grand nombre de métaux qui n'existent qu'à l'état de traces. Ainsi W. F. Drea (3) a reconnu, dans 18 dents humaines, des traces des éléments suivants: aluminium, baryum, vanadium, zinc et sodium, et aussi, mais en moindres quantités ou moins constamment, chrome, lithium, manganèse et potassium. Dans quelques cas où l'eau d'alimentation contenait du fluor, ce métalloïde se retrouvait dans les dents. Il devrait trouver une place de choix, si la formule de l'apatite s'accorde bien avec celle des dents, puisque l'apatite naturelle contient normalement du fluorure de calcium.

D'autres auteurs ajoutent à cette liste les noms du bore, de l'étain et du nickel.

Quelques-uns de ces métaux peuvent fort bien prendre la place du calcium et du magnésium, mais il serait curieux de rechercher les résultats d'une telle substitution. Il serait encore plus intéressant de connaître le rôle que jouent le bore, l'argent, le zinc, l'étain, le nickel, le titane, le vanadium, le cuivre, le fer et le manganèse. Ces éléments ne contribuent pas pour la peine à l'architecture cristalline. On les rencontre aussi, toujours à l'état de traces, dans certains organes où on leur attribue, avec de fortes raisons à l'appui, un rôle catalytique. A cause de leur faible teneur et de leur grande activité, on les appelle des éléments *oligodynamiques* ou *synergiques,* c'est-à-dire, qu'ils travaillent, avec d'autres, et à faibles doses, à assurer le bon fonctionnement de l'organisme. Leur présence dans les tissus dentaires ne doit pas être accidentelle, et il y a lieu d'espérer que, maintenant qu'on a su les découvrir en cet endroit, on se hâtera de chercher le rôle qu'ils doivent y remplir. Comme l'iode dans la thyroïde, le cuivre dans le foie, le zinc dans le lait, ces traces de métaux, leur variation en plus

ou en moins, suggèrent aux biochimistes un ensemble d'expériences à tenter, qui devraient être d'un singulier secours à l'odontologie. Ces résultats datent à peine de l'an dernier.

Il y a très peu de travaux, jusqu'ici, sur la matière organique de l'émail dentaire. Paul Pincus (4) a soumis à une température de 262°C une lame d'émail, et il a constaté qu'elle avait noirci, tout comme la kératine de la laine, des plumes, des cornes et des ongles qui carbonise entre 250° et 260°C. L'échantillon chauffé absorbait les colorants utilisés en histologie, tandis qu''un échantillon frais ne se laissait pas pénétrer par les mêmes colorants. Ceci confirmait un travail antérieur (5) où des essais biologiques lui indiquaient la présence probable de kératine dans la matière organique enlevée à l'émail dentaire, bien qu'il ne fût pas parvenu à décomposer cette matière kératineuse. Depuis, toutefois, Pincus (6) a montré que la matière protéique de l'émail contient de la tyrosine et, puis qu'elle est exempte de soufre, elle n'est vraisemblablement pas une kératine.

L'identification nette de ce protide aidera sans doute ceux qui se livrent à l'étude des causes de la carie dentaire. Il est un des éléments du problème, son altération ne devant pas être étrangère à celle de la partie minérale de l'émail.

Toujours dans le domaine de l'analyse, mais touchant à la pathologie, les résultats de Murray et Bowes (7) sont très intéressants. Ces auteurs ont analysé séparément l'émail, la dentine et la racine des dents saines, cariées ou pyorrhéiques et parviennent aux indications suivantes: 1° L'émail des dents pyorrhéiques est moins minéralisé que celui des dents saines; les éléments y sont autrement répartis, la teneur en phosphore et en azote y est plus élevée tandis que le calcium y est moins abondant. 2° La dentine pyorrhéique contient légèrement plus de magnésium tandis que la dentine, dans la carie, est beaucoup plus riche en magnésium. 3° Dans ces deux cas, on trouve du chlore combiné qui ne se trouve pas dans les tissus sains. 4° La racine pyorrhéique est très riche en magnésium.

Ces travaux, d'ordre plutôt statistique, sont indispensables à la compréhension du problème que pose la carie dentaire car ils permettent, d'une part, d'établir la composition moyenne de la dent saine et sa structure chimique et, d'autre part, de savoir dans quelle mesure les déviations, en plus ou en moins, sont d'ordre normal ou pathologique.

Ils renseignent en outre, lorsqu'on les compare aux résultats que présente l'étude du métabolisme, sur la façon dont la dent réagit en présence du régime alimentaire, des accidents du système circulatoire et du fonctionnement glandulaire.

Ceci nous amène à dire un mot des travaux dernièrement parus sur le mécanisme de la calcification. D'abord ceux de Murray (8) sur les différences qu'il a constatées dans le rapport Ca/P dans les dents de divers animaux, les différentes dents d'un même animal et les différents tissus d'une même dent. Ses constatations soutiennent la théorie que le processus de la calcification est une propriété cellulaire, active et spécifique et non pas la simple précipitation d'une solution, saturée ou sursaturée, d'un sel de composition constante ne dépendant que de la composition ionique du plasma sanguin.

Les recherches de Uleia et Opprisin (9) sur les variations du calcium et du phosphore sanguins pendant la dentition de 27 nourrissons, dont plus de la moitié étaient rachitiques, montrent qu'à la sortie de la première dent, la teneur en phosphore est considérablement diminuée tandis que celle du calcium ne varie que dans une faible proportion, voisine de la normale.

## Proprietes Chimiques de la Salive

Il ne faut pas oublier que la dent n'est pas le seul facteur à envisager dans le problème de la carie. Du point de vue chimique, la salive a, elle aussi, une importance

considérable. Sa composition, sa concentration en ions de toutes sortes et surtout en ions hydrogènes doivent être soigneusement étudiées. Les résultats obtenus par Hermann Mathis (10) nous donnent une idée des variations, à première vue assez considérables, de la teneur de la salive en potassium, calcium, sodium, phosphore et chlore. Il a analysé, par voie micro-chimique, la salive de six personnes, ce qui lui a fourni les données suivantes:

| | K | Ca | Na | P | Cl | Mg |
|---|---|---|---|---|---|---|
| 1ére personne ..... | 69. | 6. | 115. | 93.7 | 17.2 | 2.% |
| 2ème " ..... | 81.2 | 4.6 | 33.6 | 50. | 13.3 | |
| 3ème " ..... | 60.3 | 5.2 | 31.2 | 37.1 | 15. | |
| 4ème " ..... | 60. | 4.5 | 36. | 42.6 | 14.7 | |
| 5ème " ..... | 82.4 | 5. | 36.4 | 50. | 16.6 | |
| 6ème " ..... | 75.1 | 5.6 | 29.6 | 41.2 | 15.3 | |

Ces variations ne sauraient avoir de valeur clinique d'après la majorité des auteurs à cause de la pénurie de documents certains.

Bien que jusqu'ici, les résultats analytiques ne soient que fragmentaires et ne permettent pas de tirer de conclusions rigoureuses, il n'est pas inutile de poursuivre des travaux d'un autre genre, moins statiques, d'où il sera possible d'obtenir certains éclaircissements sur la façon dont se comportent les dents saines, les dents cariées ou aptes à se carier, vis-à-vis d'une salive apparemment normale. On pourra même se renseigner sur les caractéristiques de la salive des personnes ayant des dents cariées ou susceptibles de se carier.

Nous relevons d'abord les recherches de Mizuma (11). Cet auteur japonais remarque premièrement que l'émail n'est pas soluble, à 37°C, même avec le temps, dans des liquides dont le PH est supérieur à 6.77. Au-dessous de cette valeur, la solubilité dépend de la concentration en ions H. Ainsi du jus de citron (pH:2.4) en dissout 77% tandis que du jus de raisin (pH:3.5) n'en dissout que 1.5%. L'émail décidu est très soluble dans les acides, de même que celui des vieilles personnes, au contraire de l'émail permanent et de celui des jeunes gens.

Quant à la salive, Mizuma reconnaît que lorsqu'elle est visqueuse, abondante, alcaline et bien tamponnée, les dents qu'elle baigne sont moins sujettes à la carie.

White et Bunting (12), de leur côté, ont analysé la salive de vingt-cinq enfants dont douze ne possédaient pas de dents cariées, pour en connaître, d'une part, la composition chimique lors de la salivation normale ou stimulée, et d'autre part son influence sur la carie. Ils ont tout d'abord confirmé une étude antérieure de Bunting, à savoir que la salive normalement sécrétée contient plus de phosphore et de calcium que l'autre, tout en étant moins avide de gaz carbonique, conséquemment moins alcaline. Ils n'ont pas trouvé de relation entre la carie et la composition chimique de la sécrétion.

Par ailleurs, Karshan (13) a trouvé que les sujets dont les dents sont saines ou dont la carie a été arrêtée, ont une salive qui absorbe abondamment le gaz carbonique, donc très alcaline. Agitée pendant deux heures avec du phosphate tricalcique, cette salive abandonne plus de calcium que de phosphore, que celle d'un sujet en état de carie active. En contradiction avec les auteurs précédents, il remarque une plus grande abondance de phosphore et de calcium dans la salive des sujets dont les dents sont malades. La teneur en azote protéique et ammoniacal ne varie pas sensiblement d'un sujet à un autre.

## Alterabilite de L'Email Dentaire

Ces résultats nous rapprochent maintenant d'une étude de grande envergure qu'ont inaugurée les professeurs de l'Ecole dentaire de l'Université Northwestern. Parmi les premiers résultats obtenus jusqu'ici, ceux de Fosdick, Hansen et Miss Epple (14) ont

une importance pratique considérable. Ces auteurs en sont venus à la conclusion que la salive humaine contient toujours une *"matière"* sensible à l'action de la chaleur et des antiseptiques, de nature bactérienne ou enzymique, capable de produire des acides aux dépens du sucre et qui cause, par le fait même, la décalcification. Une mesure du taux de cette décalcification révèle une différence de concentration de cette *"matière"* dans la salive des sujets réfractaires à la carie et dans celle des candidats à la carie.

Il est donc possible maintenant de connaître à l'avance les réfractaires et les susceptibles. Une analyse chimique, un examen bactériologique et un essai de laboratoire, le tout ne demandant de la part de la personne examinée qu'un échantillon de sa salive, permettent en quelques heures, d'être fixé sur ce point.

On fait mâcher un peu de gomme pour activer la salivation puis l'échantillon prélevé est partagé en trois. Une première prise sert au dosage du calcium et une deuxième à une numération de bacilles, tandis que la troisième est mise dans un tube scellé avec un décigramme d'émail dentaire humain. Ce tube, maintenu pendant quatre heures à la température du corps, est constamment agité. La salive des réfractaires ne dissout pratiquement pas de calcium, tandis que la plus ou moins grande quantité que dissout celle des autres est un indice quantitatif de leur susceptibilité.

Avant de passer aux traitements suggérés, notons que Fosdick, Hansen et Wessinger (15) ont poussé plus loin ces travaux. D'après eux, les glucines donnent par fermentation de l'acide pyruvique qui attaque l'émail, provoquant ainsi une lésion carieuse. Le pyruvate de calcium est ensuite réduit par certains organismes microbiens de la bouche, sécrétant des réductases, en lactate de calcium. Quelques micro-organismes tels que *Saccharomyces cerevisiae, Sarcina lutea, Bacillus aerogenes,* etc, introduits dans de la salive stérilisée contenant du phosphate tricalcique et de l'acide pyruvique, le tout maintenu à la température du corps pendant quatre heures, ont confirmé les vues de Fosdick et de ses collaborateurs, car des dosages ont mis en évidence la diminution de l'acide pyruvique et la présence de l'acide lactique.

Nous pouvons encore noter que les recherches des savants de Chicago reposent sur des expériences solides et sur des démonstrations suffisamment concluantes. Les chimistes dentaires ont fait du chemin depuis que la polémique Marshall-Shepard-Giess fit rage entre 1915 et 1918 autour du facteur salivaire du premier.

Les travaux de Fosdick et de ses collaborateurs ne sauraient se borner à un diagnostic. Les candidats à la carie désireraient bien savoir s'il leur est possible d'éviter l'embarrassante échéance.

Le groupe de Northwestern propose, au sujet des régimes à suivre dans tous les cas, les quelques règles suivantes qui, n'ayant encore qu'une valeur de probabilité sans doute, respirent tellement le bon sens et s'accordent si bien avec les données de la diététique moderne, qu'on n'en peut espérer que du bien, même au point de vue de la santé humaine en général.

1° manger plutôt des aliments simples, nature, que des mets trop recherchés et trop apprêtés.

2° reduire au minimum les sucres raffinés et purifiés, (ce qui comprend en outre les sucreries et tous les aliments "trop riches").

3° manger beaucoup de fruits et de légumes frais qui contiennent les sels minéraux et les vitamines indispensables.

4° se nourrir abondamment de lait, de laitages, de triperie: foie, rognons, cervelles qui sont tous riches en protéines.

5° ne faire usage des concentrés de vitamines que dans la morte saison, alors que les fruits et les légumes frais sont rares et coûteux.

6° ne prendre de médicaments minéraux: phosphore et calcium plus particulièrement que sur l'avis du médecin.

L'influence des vitamines, surtout de la vitamine D, est très considérable. Le

rapport du *Committee for the Investigation of Dental Diseases* en Angleterre, insiste sur les excellents résultats obtenus pendant trois ans par l'addition de ce facteur au régime de trois groupes d'enfants commis au contrôle des membres de ce comité. On a remarqué que la tendance à la carie avait notablement diminué chez ces enfants dont plusieurs étaient exposés à devenir rachitiques.

Dès qu'il est question de diète et de régime, le rôle du chimiste devient des plus importants, car c'est sur ses analyses que reposent les données du diététiste. De plus vous constatez, dans cette phase de la lutte contre la carie dentaire, combien le laboratoire fut, et devient de plus en plus indispensable. Les dosages de calcium vont dorénavant être d'usage courant chez les dentistes et dans les cliniques si la méthode du Dr Fosdick s'avère indiscutable, comme elle a toutes les chances de l'être. Le chimiste sera, comme du médecin, l'auxiliaire attitré du dentiste. On se rend compte aussi du programme de recherches biochimiques rendu désormais possible dans le domaine de l'odontologie.

## Travaux Sur Les Appareils de Prothese

Il est impossible de donner, en si peu de temps, même une idée générale de tous les matériaux nouveaux qui entrent dans la fabrication des appareils de prothèse. Ce n'est qu'à titre de renseignement que je mentionnerai l'usage de plus en plus courant des résines synthétiques, telles que la bakelite, la vinylite et les métacrylates qui trouvent ici comme dans plusieurs autres domaines, des emplois de plus en plus nombreux. Ce serait de la technologie et une nomenclature assez aride dont nous pouvons nous dispenser.

D'autres aspects de la question sont beaucoup plus intéressants. En particulier, ce qui concerne les amalgames dentaires.

Le monde scientifique s'est ému, en 1927, lorsque le professeur Alfred Stock de Berlin lança une grande offensive contre le mercure et ses amalgames. Le savant berlinois venait de payer son tribut à l'hydrargirisme et il voulait empêcher les autres d'en être comme lui les victimes. Tous les travailleurs de laboratoire sont au courant des dangers que présente l'usage continuel du mercure. Les vapeurs de ce métal sont dangereuses à respirer. Elles provoquent des accidents dont quelques-uns peuvent être mortels. Il y aurait danger à la fois pour le dentiste qui prépare ses amalgames et pour le client qui porte dans sa bouche une source de vapeurs mercurielles. La menace est-elle si grande? C'est ce que nous allons voir.

Le dentiste manipule du mercure. De ce seul fait il doit déjà se prémunir contre les méfaits de ce métal liquide. Quelles sont les précautions à prendre? Une seule suffit, ne jamais donner la chance aux vapeurs toxiques de séjourner dans la pièce où il travaille. Pour cela il faut une bonne aération pendant et après la manipulation; maintenir toujours hermétiquement bouché le récipient qui contient le mercure, éviter d'en renverser sur la table et sur le parquet surtout s'il y a des fentes et des trous où les globules liquides peuvent se ramasser. Le reste est une question d'hygiène personnelle si on manipule beaucoup de mercure: éviter une vie trop sédentaire, pratiquer les sports de plein air.

Quant au client, sa situation n'est pas du tout la même. Si on considère qu'un amalgame est une véritable combinaison chimique, le mercure y a perdu ses propriétés, en particulier celle d'émettre des vapeurs. Malheureusement, la chose n'est pas si bien prouvée que les amalgames ont une formule chimique définie et, même lorsqu'on leur accorde ce privilège, il reste que, du point de vue dentaire, les amalgames qui se travaillent le mieux et qui répondent davantage aux désirs des dentistes sont souvent assez éloignés de ce que le chimiste considère comme un corps pur. Stock, par exemple, a décelé la présence de vapeurs de mercure au-dessus d'un amalgame dentaire et il a

calculé que la quantité qui s'en échappait était suffisante pour occasionner des malaises désagréables. Des dentistes et des chimistes ont réfuté les conclusions du savant berlinois tandis que d'autres lui ont donné raison. Disons que Stock a expérimenté surtout avec des amalgames de cuivre et que les amalgames d'argent et d'argent-étain sont moins à craindre. Une excellente précaution serait de peser exactement les métaux nécessaires à l'exécution de l'amalgame. De cette façon il n'y aurait pas de mercure résiduel et c'est surtout celui-là qui est responsable des troubles qu'a notés le professeur Stock.

Il est un autre cas où quelques connaissances de chimie et de physique sont nécessaires au dentiste. C'est dans l'assemblage à l'intérieur de la bouche, d'appareils différents de prothèse. Un article récent remet en mémoire des principes bien connus des physico-chimistes et que l'empirisme . . . et le bon goût avaient déjà enseigné aux dentistes.

Le Dr Touraine (17) traite des stomatites et leucoplasies électrogalvaniques, termes qui réunissent "les désordres variés et parfois graves qui résultent de l'irritation chronique entretenue dans la bouche par des pièces métalliques renfermant des métaux différents."

C'est une notion élémentaire de physique et de chimie que deux métaux ou alliages différents mis en contact avec une solution d'électrolyte produisent une pile électrique débitant un certain courant et produisant une électrolyse. Différents phénomènes secondaires se passent aux électrodes. Il y a d'abord le transport d'ions métalliques de l'anode à la cathode et d'ions acides dans le sens inverse qui est la raison même du passage du courant. De là résulte une désagrégation de l'anode et la production, en ce point, d'une quantité anormale d'acide qui va attaquer et dissoudre l'émail qui est en contact avec le métal devenu le pôle négatif de la pile. L'irritation causée par le courant galvanique buccal et par l'acide libéré peut déterminer, d'après Lain (18) et plusieurs autres "une véritable leucoplasie dont l'évolution cancéreuse est possible et même fréquente".

Dans quelles circonstances ces troubles peuvent-ils apparaître? Tout d'abord dès qu'existent dans la bouche des appareils de prothèse faits de deux métaux différents: or et acier; or et amalgame; platine et amalgame; or et aluminium, etc. Le polymétallisme est alors permanent et par là plus dangereux. Il peut aussi se produire du polymétallisme intermittent, d'ordre professionnel, même lorsqu'un seul métal ou alliage se trouve continuellement dans la bouche mais qu'un ouvrier, comme un cordonnier, un tapissier, une couturière ou une coiffeuse, porte dans sa bouche les clous, les semences (broquettes), les aiguilles ou les épingles dont il a à se servir. La salive dans tous les cas joue le rôle de l'électrolyte ou de milieu conducteur et elle est d'autant meilleure conductrice qu'elle est plus acide, quoique même normale et alcaline, elle constitue déjà un excellent moyen de transport pour les ions.

Des expériences ont montré, en dehors de la bouche, qu'une plaque d'aluminium et un amalgame pour plombage réunis par de la salive, peuvent produire une intensité de courant de 2800 micro-ampères. L'intensité du courant doit être proportionnelle, pour deux métaux donnés, à la superficie des pièces intéressées. Ces surfaces sont assez faibles dans la bouche et les expériences réalisées dans la cavité buccale ne donnent pas des valeurs aussi élevées. Lain a décelé, chez 30 sujets des intensités s'échelonnant depuis 2 jusqu'à 40 micro-ampères, la moitié se tenant entre 3 et 10 micro-ampères. Quant au voltage, il est de l'ordre de quelques millivolts.

Les électro-chimistes ont établi expérimentalement une échelle des tensions électrolytiques dans laquelle les métaux sont rangés dans l'ordre décroissant de leur potentiel de dépôt. Hogden (19) a classifié les métaux utilisés en prothèse dentaire et, naturellement, l'ordre qu'il donne concorde entièrement avec celui des électro-chimistes.

1. Aluminium
2. Manganèse
3. Zinc
4. Fer
5. Cadmium
6. Cobalt
7. Nickel
8. Etain
9. Plomb
10. Hydrogène
11. Arsenic
12. Cuivre
13. Bismuth
14. Argent
15. Mercure
16. Platine
17. Or

Les piles qui s'établissent entre deux des métaux mentionnés ont un voltage d'autant plus élevé qu'ils sont plus éloignés l'un de l'autre.

Dans une pile, c'est toujours l'élément le plus électro-positif qui devient le pôle négatif ou anode. Ce sera donc lui qui supportera l'attaque et qui sera désagrégé le plus facilement. L'autre métal n'est pas indemne, surtout si l'anode est un amalgame car le mercure sera transporté vers l'or, viendra l'amalgamer et diminuer sa résistance.

Différents troubles peuvent être attribués aux effets de cette électrolyse buccale. Troubles locaux tels goût métallique, picottement, brûlure, inflammation des muqueuses, de l'alvéole, de la langue, de la joue, irritation qui, prolongée, peut conduire à une leucoplasie et peut-être à un épithélioma.

Quelques troubles généraux comme de la céphalée, des dyspepsies, de l'asthénie, de l'amaigrissement, dont on accuse surtout les ions mercure, cuivre et zinc.

Le traitement curatif qui s'impose est naturellement la suppression d'un des métaux responsables et son remplacement par un appareil fait de même métal que celui qu'on laisse dans la bouche.

Il ne faut pas s'exagérer l'importance de ces troubles mais il est bon d'avoir présent à la mémoire le souvenir des maux qu'ils peuvent entraîner.

Pour la bonne apparence du travail il est bon, et même nécessaire, de se rappeler ces faits. Du simple point de vue mécanique il importe de ne pas multiplier la complexité métallique des pièces de prothèse car les lois de la physico-chimie sont inéluctables et l'on apprendra à ses dépens qu'il faut toujours éviter le contact direct ou médiat de deux métaux ou de deux alliages différents.

———

Nous n'avons qu'effleuré certains aspects de la collaboration profitable du dentiste et du chimiste et du secours que peut apporter au practicien la connaissance des notions élémentaires de chimie. Si ces quelques notes ont pu profiter à mes auditeurs et à mes lecteurs, si elles ont pu éveiller en eux la curiosité d'en savoir davantage et le désir de recourir aussi souvent qu'il est nécessaire aux lumières que peut leur apporter la science que j'enseigne, j'aurai atteint le but que je me suis proposé en acceptant l'aimable invitation du Comité du Congrès des Dentistes de langue française de l'Amérique du Nord.

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# *Questions et Réponses*

## DR. THEO. COTE

Q.—Lors de la prise d'une impression complète, quelles sont, à votre point de vue, les erreurs de technique les plus fréquentes?

R.—Les erreurs sont: 1o. dans l'empreinte,
2o. dans la confection du modèle,
3o. dans la prise d'occlusion,
4o. dans le montage des dents.

I—L'empreinte, c'est la base du dentier. Pour réussir une pièce de prothèse, il faut donc avoir une empreinte parfaite et pour y arriver il est essentiel de bien connaître son champ opératoire par un examen attentif des tissus que l'on va mouler. Cet examen doit porter sur la forme des maxillaires: des crêtes, de la voûte palatine, et des tissus périphériques, tels que freins et insertions musculaires.

Les crêtes sont-elles trop grosses, il faut les diminuer par une alvéolectomie, et à ce propos, il est à remarquer que 75% des Canadiens-français ont les crêtes trop basses.

En général, on n'apporte pas suffisamment d'attention aux freins et insertions musculaires et nombre d'échecs d'impression proviennent de cette négligence.

Un autre facteur très important pour une empreinte correcte est le choix du porte-empreinte. L'erreur très fréquente est de se servir du premier porte-empreinte qui nous tombe sous la main. Il faut avoir le porte-empreinte approprié de façon à ne pas refouler les tissus au moment de la prise d'empreinte.

On trouve rarement un porte-empreinte tout fait qui soit favorable à une bonne empreinte. Il faut donc le modifier de telle sorte qu'il soit en harmonie avec les formes de la bouche. C'est très simple. Il suffit d'y ajouter du Stents que l'on amollit à l'eau un peu moins que bouillante, soit 165o, et que l'on dépose dans le porte-empreinte. Ceci vous donnera un porte-empreinte individuel.

Les bords du porte-empreinte ne doivent pas être trop hauts, assez cependant pour qu'il puisse porter la substance à destination. Le Stent donne la limite des bords et il y a toujours moyen de modifier ce porte-empreinte déjà modifié si les bords sont trop hauts.

La substance à empreinte joue aussi un rôle considérable. Il arrive assez souvent qu'on se serve d'une substance quelconque, préparée au petit bonheur et alors comment s'étonner des échecs qui surviennent. . . . .

Le plâtre semble la substance idéale; jusqu'ici, elle est celle qui donne le plus de services. On doit le préparer en incorporant des proportions convenables de poudre et d'eau de façon à ce que chaque molécule de plâtre soit bien saturée. Le mélange ne doit être ni trop clair, ni trop épais: une consistance de crème épaisse, sans bulles d'air, donnera de bons résultats. On l'applique sur le Stent autant sur les bords qu'en profondeur et on le porte sur les tissus à mouler avec une pression moyenne pour ne pas comprimer les tissus outre mesure.

II.—Après l'empreinte, il y a le modèle. Il faut s'assurer d'un modèle parfait et quand je dis parfait ceci veut dire un modèle qui soit la reproduction positive exacte de l'empreinte et fait d'une substance qui ne changera pas de forme.

On peut arriver à faire un bon modèle avec du plâtre, cependant il a été prouvé que cette substance subit des modifications au millimètre. La pierre artificielle étant une substance inerte est plus sûre et , à date, la substance idéale.

III.—Le troisième facteur de réussite dans la confection d'une pièce de prothèse réside dans la prise d'occlusion. L'occlusion ne signifie pas tout simplement les

rapports d'un maxillaire avec l'autre dans ses relations antéro-postérieures, mais aussi en hauteur, à l'état normal lorsque la mandibule est au repos.

La hauteur d'occlusion est très importante et on néglige généralement ce point. On fait fermer la bouche au patient de façon quelconque—ou trop, ou pas assez. Il faut donc savoir déterminer cette hauteur d'occlusion si l'on veut parvenir à une occlusion vraie.

IV.—Et en dernier lieu, le montage des dents. Elles doivent être placées sur le versant externe de la crête mais dans une direction précise de façon à ce que chacune d'elles converge vers un point unique qu'on appelle la résultante des forces de la mastication. Si vous changez la position des dents, en d'autres termes si les dents n'occupent pas leur vraie place, il en résultera des conséquences désastreuses: 1o. au point de vue esthétique, 2o. au point de vue fonctionnel et 3o. au point de vue phonation, sans compter que la plaque perdra sa rétention.

Q.—Quel matériel semble être le plus propice à la confection d'un dentier complet, tant du point de vue de la beauté et de la force, que de la durée et de l'ajustement parfait?

R.—Le métal est idéal au point de vue physiologique parce qu'il est conducteur de la chaleur et du froid et, de ce fait, est moins irritant qu'une substance isolante, telle la vulcanite.

Parmi les métaux, le vitalium semble être la substance idéale. Sa texture est parfaite; on en obtient une surface glacée qui est par conséquent très hygiénique. Son seul inconvénient est d'être trop dispendieux pour la plupart des patients.

L'or est moins bien que le vitalium; sa texture est mauvaise et il est encore plus coûteux que le vitalium.

Le matériel le plus pratique est encore la vulcanite.

Les questions suivantes sont posées au conférencier:—

Q.—L'adaptation est-elle aussi parfaite en métal qu'avec la vulcanite?

R.—Je le pense, pourvu qu'on s'astreigne à une technique parfaite et qu'on emploie du métal de premier ordre.

Q.—Peut-on détrôner le caoutchouc?

R.—Pour le moment, je ne le pense pas. Vous savez que le celluloid ne vaut rien. Il y a une nouvelle substance sur le marché, le vernonite, qui est plus dispendieuse et qui ne semble pas avoir donné les résultats attendus. Elle a une très belle apparence, une résistance parfaite, mais d'après ce qu'on m'en a dit, son adaptation n'est pas aussi parfaite. D'ailleurs, c'est encore trop récent pour pouvoir se prononcer. Au point de vue esthétique, on en tire de très jolies pièces. Mais au point de vue pratique, le caoutchouc reste encore la substance la plus avantageuse tant pour son adaptation que pour les moyens du patient. Il a des défauts, c'est sûr, mais jusqu'ici vive le caoutchouc! Un dentier n'est pas un bijou, une décoration ou un ornement que l'on montre partout. . . . .

Q.—Voulez-vous me dire si vous avez eu des échecs complets après une bonne impression pour un dentier du haut?

R.—Non, je n'ai jamais eu d'échec complet. J'ai eu comme tout le monde des mauvais patients. Le patient, ou plutôt l'état d'âme du patient, est à considérer. Il y en a avec qui il n'y a rien à faire. Ils ont une idée fixe que la pièce ne tiendra pas. Ils ne font rien pour aider à la rétention ou font tout pour déloger la plaque. L'on peut même dire que les 4/5 du succès dépendent des dispositions du patient. Si j'ai eu des échecs, mes patients ne sont pas venus me le dire; à ma connaissance, ils ont tous porté leurs dentiers.

# *Resultats Cliniques Obtenus avec le Provac's dans les Infections Bucco-Dentaires Aigues et Chroniques*

par M.M. le docteur Longnon et Lapeyre
*(La Revue Odontologique, déc. 1938)*

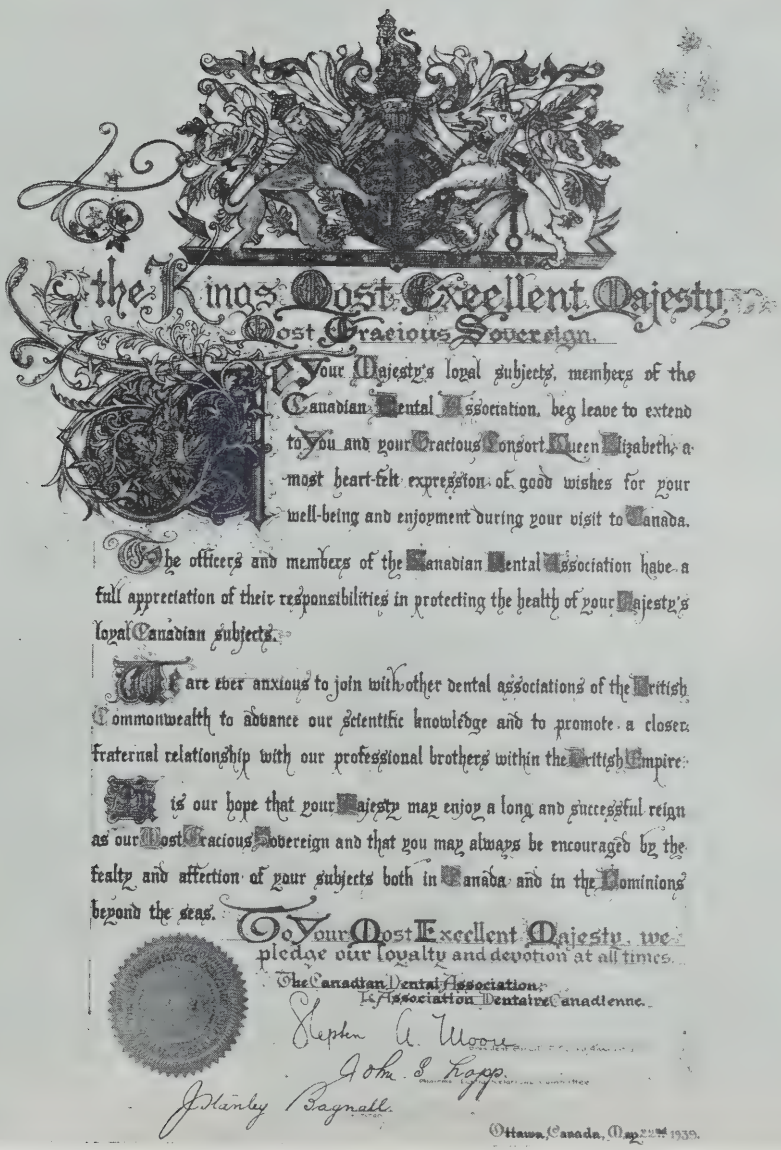
Les résultats obtenus depuis 8 ans avec le Provac's dans les infections, en particulier celles qui, les plus nombreuses, relèvent d'une association anaérobie, ont marqué un progrès indiscutable sur toutes les méthodes précédemment employées.

Cette arme nouvelle, préventive et curative, mérite d'entrer dans la pratique journalière; son innocuité la met à la portée de tous: aucune réaction générale; aucune contre-indication. On peut même considérer que ne pas utiliser cette arme est une faute, chaque fois qu'il s'agit de prévenir ou de juguler le développement d'une infection aiguë d'origine bucco-dentaire.

A cas aigus: doses massives; à cas chroniques: doses petites et progressives de désensibilisation. Pour les infections chroniques, les auteurs rappellent que toujours le traitement local doit s'associer au traitement général pour faire disparaître les épines irritatives, les causes de sensibilisation et surtout les foyers de réinfection. Les réactions locales du sujet devront servir de guide quant à la progression des doses.

## *Histoire sans paroles (Lange)*

5ème scène



The Kings Most Excellent Majesty,
Most Gracious Sovereign.

Your Majesty's loyal subjects, members of the Canadian Dental Association, beg leave to extend to You and your Gracious Consort Queen Elizabeth a most heart-felt expression of good wishes for your well-being and enjoyment during your visit to Canada.

The officers and members of the Canadian Dental Association have a full appreciation of their responsibilities in protecting the health of your Majesty's loyal Canadian subjects.

We are ever anxious to join with other dental associations of the British Commonwealth to advance our scientific knowledge and to promote a closer fraternal relationship with our professional brothers within the British Empire.

It is our hope that your Majesty may enjoy a long and successful reign as our Most Gracious Sovereign and that you may always be encouraged by the fealty and affection of your subjects both in Canada and in the Dominions beyond the seas.

To Your Most Excellent Majesty, we pledge our loyalty and devotion at all times.

The Canadian Dental Association
L'Association Dentaire Canadienne.

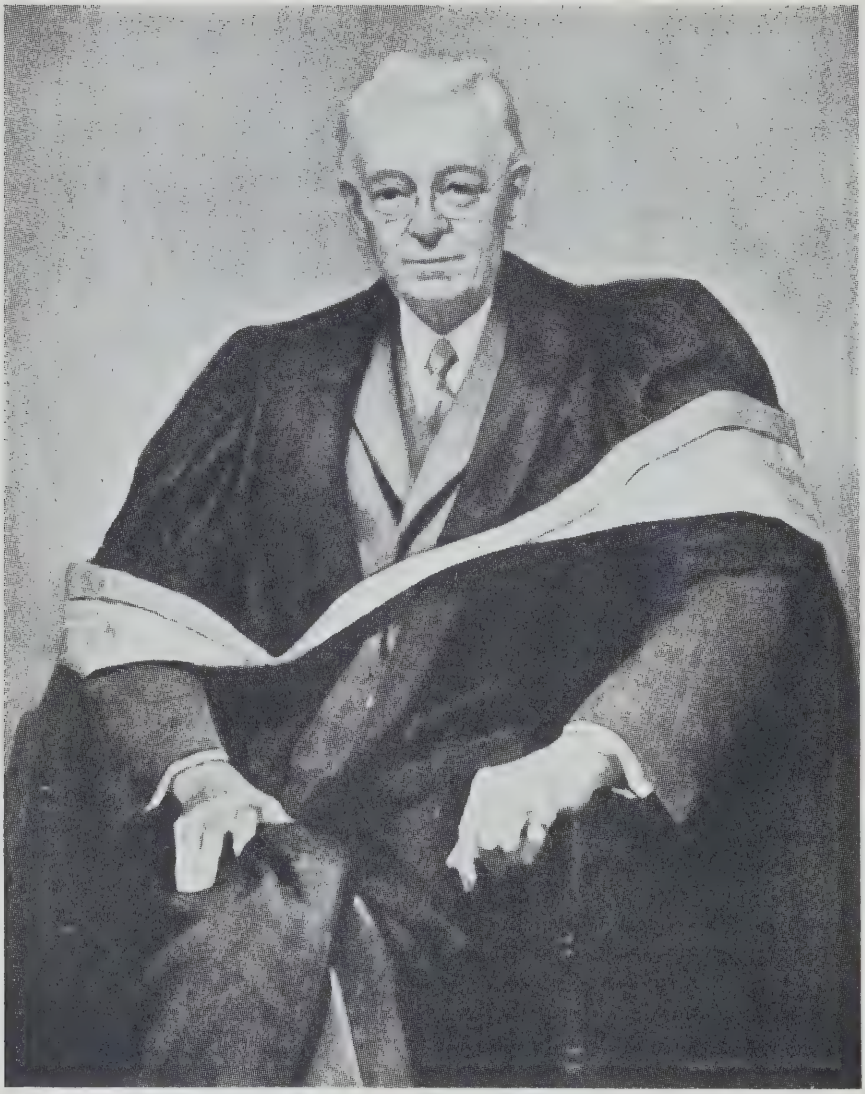
Stephen A. Moore
President

John S. Rapp
Secretary-Treasurer

J. Stanley Bagnall
Chairman, Executive Committee

Ottawa, Canada, May 2nd 1939.

The above is a reproduction of the resolution of loyalty presented by the Canadian Dental Association to Their Majesties during their recent tour of Canada.



REPRODUCTION OF A PORTRAIT

Presented to Walter Earl Willmott, D.D.S., L.D.S., by the graduates of the Royal College of Dental Surgeons of Ontario and of the Faculty of Dentistry of the University of Toronto, on the occasion of a complimentary luncheon in his honour, held in Toronto, June 6, 1939.

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# The Selection of Artificial Teeth of Harmonious Coloration for Edentulous Cases

by FRANK M. LOTT, D.D.S., M.Sc. (Dent.), Toronto, Ontario

THE problem of tooth coloration is worthy of a good deal of study because patients of today are very insistent as to the appearance of their dentures. The policy of rotating the guide and selecting a shade more or less at random has no place in efficient denture service.

A logical division of the subject may be as follows:

1. History.
2. Problem of the patient—the complexion, the teeth (general types).
3. Artificial teeth—shade guide, etc.
4. Technique of selection.

The first definite system for the selection of artificial teeth was based on temperaments. Patients were classified according to the predominating influence of the nervous, nutritive or other systems and the relative energy of the various body functions. There were four groups: bilious, sanguine, nervous, lymphatic.

Thus, a patient with a certain muscular and osseous development, a certain colour of hair and eyes, etc., together with a certain predominating physiologic system was supposed to have teeth of a characteristic size, shape and colour. This was all too complex, however, and was replaced by a system based on complexions.

All patients have some colour in the skin, eyes, hair and teeth. This coloration is due to such influence as race, climate, diet, habit and general health. It is known as the "complexion" of the patient.

The skin, free from sunburn, tan and chemicals, is the best element in the complexion for classification purposes. Hair and eyes vary greatly and are usually considered as contributory elements only. Skins may be classified on the proportion of three colours: red, yellow and gray. Blue is often present in eyes and teeth but is seldom visible as such in normal skin.

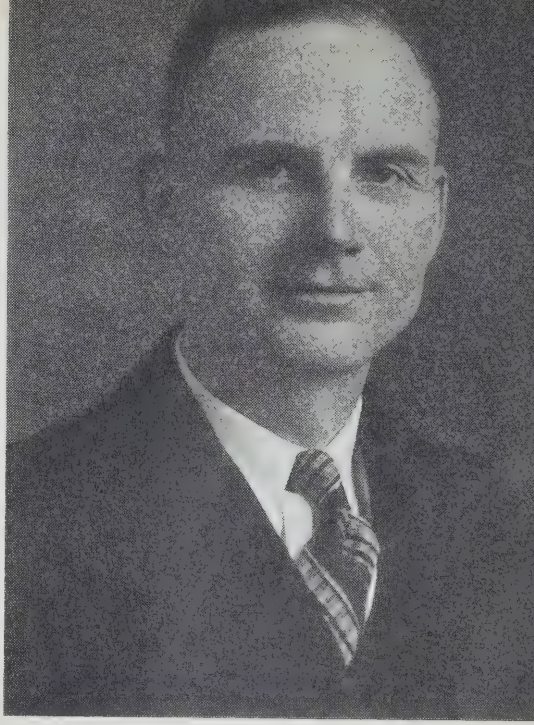
There is almost infinite variation due mainly to racial mixtures; also, everyone undergoes a gradual change in degree of coloration of hair and skin from youth to mature years and, in the aged, even the eyes change in brilliance and depth of colour but, aside from results of artificial changes, blondes are always blondes and brunettes are always brunettes. When many patients of the border line types decide to bleach their hair a definite

classification might be difficult, but the skin usually is a reliable guide and when the dominant colour in the skin is determined, the selection of a harmonious shade of teeth is comparatively simple.

The following table divides the types in a simple manner:

| | HAIR | EYES | SKIN |
|---|---|---|---|
| BLONDES | | | |
| (1) Flaxen or corn tassel. | Flaxen. | Light blue. | Fair and of delicate texture. |
| (2) Gray | Yellow-gray. | Pale blue, light gray. | Pallid, gives effect of a faded complexion. |
| (3) Auburn or red heads. | From sandy to a dark red-brown. | Red-brown (hazel), blue-gray. | May be strongly red when eyes hazel, or fair when eyes blue. |
| MEDIUM TYPES—very common in all countries. | | | |
| (1) Fair Wide variation in all specifications, (dark blonde among brunette), (light brunette among blonde). | Light brown. | Brown. | Comparatively fair. |
| (2) Brown. Border line type, inclined towards brunette. | Brown. Both with mixture of red. | Brown. | Darker than above. |
| BRUNETTES | | | |
| (1) Light. | Brown. | Gray. | Darker skin. |
| (2) Medium. | Black, perhaps purple in some lights. Turns gray early. | Dark blue, brown. | Strongly coloured but not olive. |
| (3) Dark. | Black. | Black. | Deep brown. |

The relation of tooth coloration to complexion is the next link in the chain of selection. Generally speaking, the most pleasing harmony of teeth and skin results when the gray of the enamel contains the same colour that is strongly dominant in the protected parts of the skin, and the dominant colour in the dentine is similar to that of the more exposed parts of the skin. Well selected teeth will be inconspicuous because they will harmonize so well with the rest of the face that they will not draw special attention.



### Selection
### Colour in Teeth

The office light plays a part in the selection of teeth. For best results the operating room should have a northern exposure. Interior decorating should be done in subdued tones, preferably gray. Strongly coloured objects should be avoided in the room, also distracting lights back of the patient but within the range of vision of the operator. Daylight is best, preferably bright clear days.

### General

Observe the patient and determine the type according to the complexion. This will identify the tooth group and give valuable information on the gingival shade.

Examine the skin on the forehead near the hair or on the inner side of the arm near the elbow where it is free from tan or cosmetics and determine the dominant colour. This will indicate approximately the correct enamel shade. However, it is not always so easy. The very widespread use of rouge, lip stick and other cosmetics by women, both old and young, complicates the problem. Also, exposure to the sun with consequent redness, tan or freckles influences tooth colour selection.

On the other hand, the skin of patients with systemic complaints may show a loss of colour or, as in certain liver affections, it may have a strong yellow cast. If the condition will be but temporary

Shade selections for complexions can now be made as follows:

| TYPE | HAIR | EYES | SKIN | TEETH | |
|---|---|---|---|---|---|
| Blonde. | Flaxen-yellow gray, sandy-red. | Blue-gray, light brown. | Fair and delicate. Pallid or gray, reddish in auburn. | 38 blue-gray.<br>41 gray.<br>46 monotone yellow gray. | 3 blue-white.<br>6 light blue.<br>11 light gray. |
| Medium. | Brown. | Brown. | Comparatively fair. | 51 yellow-orange.<br>53 orange. | 8 cream-yellow.<br>9 cream-yellow. |
| Brunettes. | Brown to black. | Gray–deep blue. Brown-black | Increasingly brown. | 55 orange.<br>57 orange.<br>58 tobacco.<br>59 tobacco. | 15 Straw-yellow.<br>16 Straw-yellow.<br>21 yellow.<br>24 brown. |

THE T.C. SHADE GUIDE has the following divisions:

Six colours — white, yellow, blue, gray, green, brown.

| | | | |
|---|---|---|---|
| 4 whites— | whitish | — | 1 – 2 |
| | blue-white | — | 3 |
| | mild white | — | 4 |
| 9 yellows— | cream-yellow | — | 5 – 7 – 8 – 9 |
| | straw-yellow | — | 10 – 15 – 16 – 20 |
| | yellow | — | 21 |
| 4 blues— | light blue | — | 6 – 12 |
| | dark blue | — | 13 – 18 |
| 3 grays— | light gray | — | 11 |
| | gray | — | 14 |
| | dark gray | — | 22 |
| 2 greens— | | — | 17 – 19 |
| 3 browns— | green-brown | — | 23 |
| | brown | — | 24 – 25 |

THE NEW TRUBYTE GUIDE has four divisions as follows:

| | | |
|---|---|---|
| blue-gray | — | 36 – 37 – 38 |
| yellow-grays | | |
| gray | — | 40 – 41 – 47 – 50 |
| yellow-gray | — | 44 – 45 – 48 |
| monotone yellow-grays | — | 39 – 43 – 46 |
| yellow-orange-grays | — | 42 – 49 |
| red-grays | | |
| yellow-orange | — | 51 – 52 – 54 – 56 |
| orange | — | 53 – 55 – 57 |
| tobacco | — | 58 – 59 |

discount the situation and select a shade of tooth that will be suitable when health returns. Otherwise, make an allowance for the condition.

Moisten the sample tooth, hold it in position under the upper lip and examine it there.

Do not make snap judgments but, on the other hand, do not look at it for too long because the vision is not colour true for periods of over five seconds in duration. Many short trials are preferable to fewer longer ones.

Decide upon a shade, then have the patient inspect and verify it, and, when possible, an accompanying friend or member of the family as well.

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# *Manifestations of Disease in the Mouths of Pre-School and School Children**

by M. A. COX, M.B., Toronto, Ontario

A DESCRIPTION of all the various manifestations of disease in the mouth would, of course, be impossible in the time allowed for this paper. However, there are many manifestations that the average physician and dentist sees frequently that are not only of interest but of importance in the diagnosis and successful treatment of any given patient.

### Malformations

One of the first abnormal manifestations noticed in any examination of the mouth will be the presence of any malformation either of the lips or jaw. Of frequent occurrence are hare-lip and cleft palate both believed to require surgical repair early in life by the medical profession, although some dentists believe that the cleft palate can be better treated with an obturator. Tongue tied —a condition which usually remedies itself once the teeth have erupted, may require surgical interference. Only occasionally does one see a congenital hypertrophy of the tongue—a diagnosis that must be made only after such conditions as cretinism or Mongolian idiocy, etc., have been ruled out. The bifid tongue is very rare, but one occasionally does see a condition called micrognathia, a poorly developed lower jaw that tends to fall backward when the infant is recumbent, giving rise to blueness due to interference of the tongue with respiration.

### The Lips

The lips frequently display one or more signs that help in a diagnosis. Herpes labialis may accompany a simple nasopharyngitis or a severe illness, such as pneumonia or typhoid fever, or may simply occur in some patients after a prolonged visit to the dentist whose hand, while working has irritated a sensitive skin. Herpes zoster, more painful than simple herpes, may accompany the same disease elsewhere in the body. Eczema of the lips is fortunately rare and perlèch; the small sore at the corners of the mouth, is seldom met with in well nourished children. Rhagades, the so-called purse-string mouth of congenital syphilis or mucous patches from the same disease, may be seen.

### The Tongue

Examination of the tongue may yield one or more of a variety of conditions. Glossitis, which may be due to injury of many kinds, is occasionally seen after operations where a tongue clamp has been used, or may be due to too hot foods, chemicals, metals, infection or prolonged use of sugar solution and rarely to the application of the tongue by children to cold metals when playing outdoors in winter, or to accompanying urticaria. Desquamation of the tongue may be secondary to a glossitis, or may be congenital, called psoriasis of the tongue or is most frequently due to scarlet fever or measles, a sign very useful in the diagnosis of scarlet fever. An ulcer of the frenum of the tongue usually accompanying pertussis was once thought of importance in the diagnosis of whooping cough but the present day

* Read before the combined meeting, Academy of Dentistry and Section of Pediatrics, Toronto, November 17, 1938.

cough plate routine, introduced by the Hospital for Sick Children, has made this diagnosis easier and more certain. One occasionally sees a tongue swallower but this diagnosis is an easy one if you catch him in the act. Geographical tongue, a congenital condition, tends to run in families, so called because of periodic heaping up and desquamation of the surface of the tongue which gives rise to a map-like appearance and which changes from time to time. The desquamation leaves a red area that might be mistaken for glossitis. The condition may persist throughout life although the adult geographical tongue is less prone to desquamation and may take on one characteristic map-like appearance.

### The Teeth

Examination of the teeth usually finds more or less dental caries, occasionally an alveolar abscess, gum boils, etc., the appearance and treatment of which you all know very well. Hutchinson's teeth of congenital syphilis are frequently seen at the Hospital for Sick Children. These teeth may be recognized by x-ray long before eruption. Other deformities of the teeth have been suggested as being indicative of congenital lues but in our experience the Hutchinson's type is the only one of any use in diagnosis.

### Stomatitis

Examination of the mouth generally may show some form of stomatitis. The most common type is a simple catarrhal stomatitis which may have resulted from trauma, burns, infection or occasionally from metals such as mercury, bismuth, lead, etc. Herpetic areas or an herpetic stomatitis may occasionally be seen. Large bulbous lesions may accompany a generalized pemphigus. The most common type of stomatitis in young children and infants is that known as thrush and is due to the fungus odium albicans. This is characterized by white, pin-head sized, raised lesions which coalesce to form large areas. These may be seen in any part of the mouth, particularly the tongue and the buccal mucous membrane, but may be found in the pharynx, oesophagus, the trachea, and even in the bronchi and middle ear in sickly and poorly nourished infants and children. It may occur in children who have been ill for long periods. The fungus is easily distinguished from milk curds because it is adherent to the mucous membrane. However, it can be rubbed off and microscopic examination in 10% hydroxide solution shows the joined filaments of the fungus. The treatment consists in removing the membrane with a soft swab soaked in a weak alkaline solution and if persistent the mouth may be painted with a 1% aqueous solution of gentian violet. Coarse gauze should not be used for swabbing. General measures of health and sound feeding practice do much to eliminate thrush. The ban on the use of comforters, etc., has lessened the incidence of thrush. During an attack, attention must be given to the sterilization of nipples and all equipment used in feeding. I might mention that a normal, clean, healthy mouth does not require swabbing.

Anaphylactic Stomatitis — due to the feeding of milk or other substance containing protein to which the child is sensitive is seen from time to time. The lesions are usually urticarial in character or may resemble burns, the mucous membrane becoming intensely red. Sometimes the lips and skin may exhibit a burnt appearance where some of the food has escaped from the mouth. Occasionally the oedema accompanying this condition is severe and may require immediate action to relieve it. The same phenomenon may be seen in allergic reactions from protein administered other than by mouth, where the mucous membrane is

usually not so red and it is the oedema that is the salient factor.

### Other Manifestations of Disease

There are numerous manifestations of disease found in examination of the mouth that perhaps hardly belong under simple stomatitis, though some of them resemble this condition in appearance at least. The earliest sign of jaundice both catarrhal and other types of jaundice is often found on the soft palate and pharyngeal walls. The presence on the buccal mucous membrane of Koplik spots heralds the coming attack of measles and often the first visible rash in measles is seen on the soft palate. A generalized redness of the whole throat generally precedes most of the infectious diseases. The pox of chicken-pox and small-pox may both be found during the course of these illnesses but usually only after the first pox have occurred on the skin. The red throat of scarlet fever is well known to all of you and precedes the rash elsewhere. This redness is of typical shade and usually accompanied by marked pain and soreness in the deeper tissues. The chronic red throat of syphilis is rarely seen in children.

The pouting at the opening of Stenson's duct and occasionally, a similar phenomenon at the ducts of Wharton of the submaxillary and sublingual glands is useful in making a diagnosis of mumps. Rarely the presence of calculus in one or other of the ducts gives rise to swelling and accounts for the acute pain following the flow of saliva in this condition.

The term ulcerative stomatitis, usually used in connection with so-called Vincent's angina should really include many types of inflammation that produce or are accompanied by ulceration within the oral cavity. The ulcerative stomatitis of the Vincent's type is, I believe, to be discussed later in the evening. As to the part played by the spirillum and fusiform organisms of Vincent's in the cases showing acute gingivitis, punched out ulcers and accompanied by a typical foul breath, I am not prepared to say. One interesting fact is that Miller, one of the leading dentists of 40 years ago, was one of the first individuals to point out the presence of these organisms in these cases. Today there is some doubt as to the part these organisms play but there is no doubt as to the efficacy of arsenic both locally and intravenously in the treatment of this infection.

There are, of course, other types of ulcers to be seen in the mouth, such as, the syphilitic ulcer that follows the breaking down of gummata when the infection has destroyed the blood vessels supplying that tissue. Since the ulcer has resulted from destruction of blood supply, they are very difficult to treat and slow to heal. We have seen several of these ulcerations at Hospital for Sick Children that have involved the whole palate and ended with complete destruction of this area.

Rarely one sees tuberculosis lesions in the throat or around the teeth, breaking down and ulcerating. So too, cervical Pott's disease may invade the posterior wall of the pharynx, suppurating glands such as the retropharyngeal may suppurate and produce a large sloughing area as may peritonsillar infection or quinsy. These conditions usually are not multiple but produce one large broken down area. New growths in the mouth are rare but do occur and can produce ulcerating inflammation.

Rarely one sees a child with fixation of the jaw due to extensive oral sepsis that has involved both the muscles and particularly the articular surfaces. Fixation of the jaw may accompany Wilson's disease or progressive lenticular degeneration and everyone here will be familiar with the locked-jaw due to spasm in

tetanus. Fortunately the mandibular articulation is seldom involved in rheumatoid arthritis in children.

Gangrenous stomatitis or noma is rare these days—occurring chiefly in the slums and among poorly nourished children. It usually leads to sloughing of huge areas and is frequently fatal. While Vincent's organisms are found they are likely a secondary invader. The cause of noma is not known.

Ulceration, too, may occur in cases of poisoning by mercury, bismuth, lead, etc., either having been taken as medicines, eaten accidentally, or in older children or adults when working with these metals. The accompanying salivation which occurs in mercury poisoning and the blue line along the gums from lead are well known.

### Lack of Vitamins

Lack of vitamin C. in the diet produces the typical mouth of scurvy, a condition sometimes confused with Vincent's angina when it occurs in older children or adults, where one has no Barlow's sign or periosteal hemorrhage to aid in the diagnosis. The bluish spongy, bleeding, tender gums, sometimes accompanied by ulceration, rarely gives rise to a temperature and enquiry as to the diet usually makes the diagnosis a simple one. Observers have reported a typical red glossy tongue as accompanying a vitamin $B_2$ deficiency or pellagra.

Disturbances in the endocrine system may manifest themselves in the mouth. The tongue and jaw of the Cretin are typical in character and the large jaw of acromegaly due to disturbance in the chromphile cells of the pituitary is quite distinctive.

Occasionally one sees evidence of actinomycosis infection in the mouth. The ray fungus has been recovered from carious teeth and the gums and tongue have frequently been reported as the seat of this infection. The infection may spread to the jaw and give rise to a tumour resembling a new growth.

Pallor of the mucous membrane may be secondary to some form of anaemia, and should suggest to the examining clinician the need for a complete analysis of the blood.

And last, but not least, is the normal healthy mouth, which is a great source of reassurance to the pediatrician when a doubtful rash blankets the body, for then we conclude that it is something he has eaten, perhaps his teeth, too much sun, etc., and we cheerfully assure the mother it cannot be infectious disease with that lovely, clean, normal mouth.

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## *Conventions*

Nova Scotia Dental Association, Halifax, August 31-September 2, 1939.

Golden Gate Dental Congress, San Francisco, California, September 25-27, 1939.

Fifteenth Annual Fall Clinic of the Montreal Dental Club, Mount Royal Hotel, Montreal, September 27-29, 1939.

Chairman, Publicity Committee, Frank A. Edward, Medical Arts Building, Montreal, Quebec.

Sixty-third Annual Convention of the Eastern Ontario Dental Association, Chateau Laurier Hotel, Ottawa, Ontario, October 16-17, 1939.

# *The Mouth as an Index to Nutrition and Development* *

by T. R. MARSHALL, D.D.S., Toronto, Ontario.

IN CONSIDERING the subject one of the first things that comes to one's mind, is the relation of eruption of the teeth to general growth. I think all dentists agree that a table of eruption time is very little use except as a basis for the normal appearance of the teeth. That is to say, eruption time may be earlier or later than average in a child otherwise normally developed, so that the time of appearance of the teeth is of no real value in judging the general development of the individual.

Regular, well-formed teeth are an indication of good normal development. Conversely irregular and crowded teeth indicate a disturbing factor which may be local or general. General considerations may be classified under—

a. Infection.
b. Glandular imbalance.
c. Nutrition.
d. Function.
e. Heredity.

Infection may have a direct or indirect influence. Infection from uncared for carious teeth usually has a direct effect, by causing premature loss of teeth. Enlarged tonsils and adenoid tissue cause mouth breathing with its attendant short upper lip, retruded mandible and narrow maxilla. Indirectly, infection produces a disturbed nutrition.

With a growing recognition of the important part played by the endocrines in the regulation of growth and development, it would seem reasonable to believe that imbalances would show some evidence in the dental tissues. However, at the present time there has not yet been sufficient data accumulated to make this knowledge of definite diagnostic value.

In regard to function some suggest that exercise does not produce any effect on the shape or form of the maxillae but does improve the internal architecture of the bone with better organization and calcification within the entire structure, with a more healthy condition naturally resulting. The work of Waugh and Price seems to conflict with the first part of this premise. It is shown by these men that retardation of growth and consequent irregularity of the teeth of primitive humans will occur in one generation after the adoption of a so-called modern diet. It is important, then, in prescribing a diet for a growing child, to see to it that the diet is chemically adequate, and also that it has such a consistency as to require normal vigorous masticatory function.

In regard to heredity, there seems to be a recognition that the form of the jaw tends to be determined before the child's birth. This cannot be accepted exactly as true to fact, but there is some basis for its consideration.

Disturbed nutrition of the soft tissues of the mouth causes changes which are often characteristic and of diagnostic value. Some writers have stated that the mucosa of the mouth reflects accurately, slight changes in the metabolic state. Hanke and others believe that many cases of gingivitis are symptoms of a subclinical scurvy; but our experience in practice does not support this belief, because very few of these cases show clini-

* Read before the Pediatrics Section of the Toronto Academy of Medicine.

cally obvious response following the use of large amounts of natural and synthetic vitamin C. We believe the study of the subtle influences of the general metabolic state on the oral mucosa is just beginning and is not clinically important.

There are, however, characteristic conditions or lesions of the oral mucosa which are of practical importance to both pediatrician and dentist. The brevity of this paper precludes anything but a general outline of the nature of these manifestations.

Those conditions which result from a general disturbance of nutrition usually exhibit the common characteristic of causing a wide-spread or generalized abnormality of the oral mucosa. Such conditions as measles, scarlet fever, chicken pox, small pox, diphtheria, typhoid, secondary stage of syphilis, scurvy, diabetes, tuberculosis, metallic poisoning and the blood dyscrasias may cause changes in colour, contour, texture and consistency of the entire oral mucosa. These changes are usually fairly evenly distributed and may involve the mucosa of the lips, cheeks, tongue or palate. Some diseases also exhibit characteristic superimposed lesions such as the Koplick spots of measles and the mucous patches of syphilis.

Inflammatory reactions of the oral mucosa to local causes are usually confined to circumscribed areas and infrequently involve the lips, cheeks, tongue and palate. Inflammation of the gingivae of local origin, e.g., mouth breathing gingivitis, tends to become chronic unless corrective measures are instituted. Some of the common changes of colour, contour, texture and consistency which result may be described as follows:—

The colour changes from normal light rose to cyanotic shades of rose and red.

In contour the gingival margins become thickened and irregular in outline.

The texture changes from a normal stippled surface to become either shiny, because of swelling, or broken, because of ulceration.

The consistency changes from a normal rigid tissue to a soft flaccid mass because of edema.

Sometimes a generalized inflammation of the oral mucosa may result from the use of solutions of irritating drugs such as zn. cl., phenol, essential oil flavourings, sodium perborate, and silver nitrate. This may be an unforeseen complicating result of treatment.

In conclusion, I would suggest to you that the mouth is not a particularly valuable index of development and nutrition; much better evidence of diagnostic importance is demonstrated from a general physical examination. On the other hand, there are certain significant findings in the mouth, which, when combined with a general survey of the body, are very helpful in making a diagnosis.

In summary I have endeavoured to point out—

1. That a time-table of eruption of the teeth is not a guide to general development.

2. That well-formed regular teeth are an indication of good general development, and conversely, irregular teeth indicate the presence of a disturbing factor which may be local or general.

3. The suggestion, that generalized inflammatory manifestations of the oral mucosa in many cases are due to vitamin C deficiency, is not supported by clinical observation in practice.

4. General conditions which result in oral manifestations are prone to produce lesions or conditions in a symmetrical manner and may involve any or all of the mucosal surfaces.

5. Inflammatory reactions, due to local causes are usually confined to circumscribed areas and infrequently involve lips, cheeks, tongue and palate.

*1112 Temple Building.*

# *Case Report of Osteogenic Sarcoma in a Young Girl* *

by M. LEVITT, D.D.S., Montreal, Quebec

IN May of 1937 I was called to the home of a little girl, aged ten, who was suffering from a bad tooth. The patient had been confined to bed for several years with a tubercular hip-joint which at this time had begun to show improvement. A short time before I was called in, the condition of the patient was aggravated by an attack of St. Vitus dance. It was extremely difficult to examine the mouth due to that condition, but I managed to extract the tooth giving the trouble. On examining the rest of the mouth, I found a swelling on the lower left side in the muco-buccal fold extending from about the first molar area to the canine on that side. The swelling was nut-shaped and on palpating with the finger, it felt like a typical cyst. The bicuspids were misplaced lingually, evidently by the swelling. Clinically one would be apt to diagnose this condition as cystic.

As the patient was unable to be moved at the time, a portable x-ray machine was brought to the house and the left side of the mandible radiographed. On examination, the radiographs showed a large rarefied area without any definite bony outline typical of a cyst. I discussed these pictures with Dr. F. W. Saunders and it was decided to get the patient down to his office to take another series of x-rays when the patient was in a better condition to do so.

This did not take place until the following spring and more radiographs taken by Dr. Saunders revealed the same condition but the rarefied area had extended across the symphysis to the canine region on the other side. (See Figs. 1 and 2.) The patient was admitted to the hospital and on May 12, 1938, Dr. Saunders performed the following operation.

### Operation

An incision was made from the second molar area along the gingival border on the left, to the cuspid area on the right of the mandible at this point extending down the gum line. The mucous membrane and periosteum were stripped from the mandible revealing multiple large discrepancies in the buccal plate. The remaining bone of the buccal plate was of a rubber consistency. Specimens of the plate were sent to the pathological laboratory. The cavity which extended from the second molar area on the left to the cuspid area on the right was filled with a maroon and white coloured soft mass. The lower border of the mandible appeared firm as did the lingual plate. Most of the buccal plate from one end of the incision to the other was removed. Specimens of the contents of the cavity were also sent to the laboratory.

### Microscopic Examination of Tumour Mass

Sections showed a neoplastic growth of very closely packed dark-staining cells which varied from rather round to fusiform-shaped elements. These were supported by a very highly vascularized stroma. There seemed to be no areas which suggested an origin of this growth from dental structures, but the deriva-

* Read before the Mount Royal Dental Society, December 20, 1938.

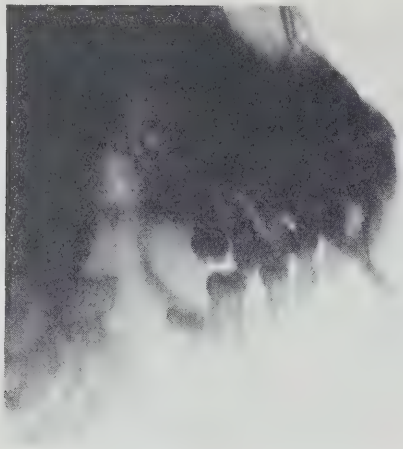

Figure 1

Figure 2

tion would appear to be rather from the medullary portion of the bone.

### Anatomical Summary

*Pleomorphic Sarcoma (Osteogenic)*

Examination of the buccal plate, showed invasion of growth described.

From the discussion that followed immediately after the above operation, it appeared that it would be useless to do any more for this little girl, as the prognosis did not seem favourable. Even if the child did survive she would be greatly handicapped and the rest of her life would not be a happy one. However, she made a very rapid recovery and was discharged five days later.

The patient was again admitted to the hospital on June 19. During the interval she was feeling quite well. There was no pain in the region of the jaw. The swelling which followed the operation had completely subsided. There was no interference with movement of the mandible, also there was no growth noticeable during that interval. I saw the patient very frequently and she seemed quite happy as her hip condition was also gradually improving. Taking all this into consideration it was decided that she had a very good chance if a second operation was performed to remove all infected bone of the mandible.

At this time there was no definite decision as to how much of the mandible had to be removed. Before the patient entered the hospital I was therefore asked to build a fixed splint to band all the lower teeth together in case it was decided to leave the teeth in place. Also there was the possibility of having to excise the mandible from the second molar on the left to the same on the right. I built a vulcanite splint resembling a lower denture with clasps on the second molars but without any teeth. This splint was made for the purpose of keeping the soft tissues in their position after the mandible was excised. The fixed splint was definitely discarded as had to be done with the second one due to a change in operation as you shall immediately see.

June 21.

Operators: Dr. Armour and Dr. Saunders.

### Partial Excision of Mandible

X-ray revealed tumour involvement of the mandible extending from the second molar on the left to the first molar on the right. The lower lip was everted and

the mucous membrane sectioned along the margin of jaw where it is reflected on to the mandible. Reflection extended from angle to angle. The soft tissues were removed from the mandible leaving periosteum intact. The geniohyoid muscles were then separated from the mandible. The mylohyoid was sectioned and the tissues separated from the medical aspect of the mandible leaving the periosteum intact. With the Gigli saw, the left horizontal ramus of the mandible was sectioned just in front of the second molar and was again sectioned at a similar site on the opposite side. On examining the mandible it was found that the tumour had been cut through on the left side. The tissues were freed from the stump on that side and the jaw again sectioned in front of the third molar. (See Figs. 3 and 4.) The bone appeared to be normal at this point. The mucous membrane was sutured and the cheek mucous membrane sutured to that, lining the floor of the mouth. Two drains were inserted through stab wounds at the angle of the jaw and sutured in place.

### Microscopic Examination of Mandible

Sections were prepared throughout the whole length of the mandible. They all showed evidence of tumour growth indicating that the neoplasm extended throughout the whole length of the main mass of jaw bone which was removed. (I will not go into further detail of the microscopic examination.)

Precise classification of this tumour is uncertain. Slides have been prepared and submitted to a number of pathologists not only here but across the border who all agreed that it is a sarcoma primary at this site and not related to any form of adamantinoma. All agreed that this is a very unusual picture and does not fit into the well-recognized bone tumours. It was agreed that until further evidence permitted of a general agreement of opinion, that it be classified as a sarcoma and distinction into any particular type deferred.

During the first two or three days after the operation the patient was quite uncomfortable, but I was greatly surprised when I visited her on the fifth day after the operation to find her sitting up in bed and singing. From then on recovery was rapid and she was discharged on the fifth of July.

X-ray examination of the chest, later on, showed no metastasis involving the lungs or the bones of the thoracic cage.

Figure 3

Figure 4

The heart and aorta were normal in appearance.

I see this little girl quite often and it is very surprising to find that in spite of the handicap of not possessing most of the mandible, she is doing quite well and is able to masticate almost any type of food.

Should everything continue to go well, she will undergo a graft operation to restore with bone the missing part of the mandible. Either a section of the iliac bone will be used for this purpose, or a greenstick fracture made of a section of a rib and grafted in position. Photographs of the patient were secured before the last operation and an attempt will be made to restore the facial contour as near to normal as possible.

I do not know as yet how long it will take, but I do hope that at some later time, I will have the opportunity of presenting this case to you with the graft firmly set and a denture built for that case.

There is a similar case on record, that of a young girl of eleven presented by Curtis and Ivy, of Philadelphia, who is now grown to womanhood and is happily married.

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# *Causes, Signs and Simple Treatment of Malocclusion*

by W. R. HENDRY, D.D.S., Toronto, Ontario

MALOCCLUSION, in the past usually considered as a mechanical problem, has, in recent years, come to be recognized more and more as biologic in origin, though the mechanical factor cannot be ruled out.

Sir Arthur Keith, in his comparative studies of the skulls of ancient and modern Britons, shows many definite changes in the structural conformation of the face of the modern Anglo-Saxon. The misplacement of teeth, long narrow dental arches, high vaulted palates and carious teeth which are so common among Englishmen of today, were almost unknown among the inhabitants of Britain in 2000 B.C. He says that at the outset of his inquiries, he held the opinion that narrowing and vaulting of the palate were produced by obstruction of the nasal cavities, due to the growth of adenoids and hypertrophied tonsils, but that he now believed that there was common cause for enlarged tonsils, adenoid tissue, contracted palates, malgrowth of the jaws and irregularities in the eruption of teeth, and that the source of all these abnormalities lies in a disturbance of the elaborate system of internal secretions concerned in the regulation of growth.

While there is considerable variation in current opinion, as to aetiology, time for treatment, method of treatment, etc., there can be no doubt that such factors as heredity, pre-natal influences, diet, metabolism, posture and habits, in addition to the endocrines, play their part in the production of malocclusion, and any one of these factors may have a bearing on the time or method of treatment. Conscientious men in our specialty are striving toward an ideal; are endeavouring to simplify treatment and to harmonize it with the natural growth tendencies of the individual.

The observation has been made that

many children have small features and jaw bones, while the teeth are disproportionately large. It is also well known that a history of missing teeth is often found in several members of a family. We are all perhaps familiar with some family, the members of which have a characteristic shape of the face or jaws. The occlusion of the teeth of identical twins is usually very similar. These examples may be cited from the standpoint of heredity.

Dr. Weston Price has shown that among certain Indian tribes of South America, those born, raised and living in the primitive tribal way have beautiful dental arches and perfect occlusion, but that wherever the parents have come under the influence of civilization, children born subsequently have narrow dental arches, crooked and carious teeth. The members of the medical profession know the vital need of a diet containing minerals and vitamins to ensure the building of strong sturdy bodies. Needless to say those elements are just as essential for the building and maintenance of teeth and jaws.

In regard to habits as factors in malocclusion, it is impossible to say just how much effect they have. Cases have been shown in young children where the stopping of a habit resulted in a correction of the occlusion. On the other hand, many children have indulged in habits involving the mouth with no malocclusion resulting. However, all such habits as thumb-sucking, nail-biting and use of pacifiers are unsanitary and objectionable, to say the least, and should be discouraged. In addition to these, the habit of mouth-breathing, of biting the lower lip, biting the tip of the tongue between the incisors or the sides of the tongue between the buccal teeth, may produce certain types of malocclusion. Also certain habits of posture, such as resting the chin on the hands or lying in bed with a hand under one side of the face, have been demonstrated as factors in malocclusion. The earlier any of these habits are formed, the more harm they may do, particularly if persisted in over a long time.

Among our adult population of today it is perhaps the rule, rather than the exception, to find some form of malocclusion of the teeth. Possibly most of these people are getting along fairly well with what they have, and give little or no thought to the condition, provided they are comfortable. It would be impossible to estimate the harmful effects on the health of the people, resulting directly and indirectly from these conditions. A great many of those cases could have been prevented had certain symptoms been recognized early enough. Preventive measures must be taken early to be effective. As soon as a child's deciduous dentition is complete he should be taken to a dentist. The care of the first teeth is just as important to the child's welfare as the care of the permanent teeth, and indeed from some standpoints more important. At four years, spaces begin to appear between all of the incisors, and should be quite definite at five. This is evidence of growth of the jaws to accommodate the larger teeth that are to take their places within the next year or two. The mesio-distal diameters of all deciduous molars must be maintained to allow cuspids and bicuspids to erupt normally, and to prevent the forward tipping of the six-year molar. The relations of the jaws, when closed, should be such, that each lower molar is approximately half its width forward of the corresponding upper molar; or the cuspids may be used as a landmark, in which case the lower cuspid should be forward of the upper. If a deciduous tooth has to be extracted prematurely, the space must be maintained after a radiograph has been taken to determine the presence of the succeeding tooth.

The correction of habits often proves very difficult in young children. A great deal of care and patience must be exercised. If it is possible to get the child's co-operation the problem may soon be solved, but without co-operation it often proves completely baffling. I do not think it wise to use any method of force, for that only tends to defeat the purpose. Some authorities believe that most childhood habits are nervous manifestations, in which case attempts at correction may aggravate the condition or lead to new habits, unless a proper approach is made. According to one authority, many cases of nervousness in children are simply manifestations of the hyperactivity caused by hunger pangs, although the hunger pangs are not directly perceived themselves; or are a manifestation of the generally increased irritability and excitation of the body tissues, as the calcium metabolism is lowered. In the average child there are no nervous manifestations as a result of orthodontic treatment, when the work is carefully done.

Thumb-sucking and mouth-breathing are perhaps the commonest habits encountered in association with malocclusion. Many methods of stopping thumb-sucking have been tried with varying degrees of success, but whatever the method, it should be with the consent of the child, which in some cases can be secured only after a considerable period of education. In regard to mouth-breathing, it should be remembered that the removal of tonsils and adenoids or other nasal obstructions does not automatically ensure normal nasal breathing. The muscles of the lips and adjacent areas have to be trained to resume their normal function.

While the practice of orthodontics is usually considered a specialty, there are many cases which the general practitioner should be able to treat, provided he studies the problem and has been trained in diagnosis. Generally speaking, the earlier that orthodontic treatment is begun, the better, but this must be qualified by taking all circumstances into consideration. One hesitates to use appliances on very young children, except in certain types of urgent cases; nevertheless, it should be the responsibility of some one to keep under observation the cases suspected of abnormal tendencies. Anomalies of the deciduous dentition are sometimes self-correcting; on the other hand, many progress very rapidly unless preventive measures are taken. As said before, a child should be taken to his dentist between the ages of 2 and 3, and should be seen at regular intervals thereafter. Close co-operation between the physician, the dentist and the orthodontist is needed. The health and welfare of our future citizens is worth every effort on the part of all interested in the problem.

*12 Bloor Street East.*

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*"I've always wanted a little greenhouse, and now I've got it" . . . . What a perfect definition of happiness in a dozen words!*

*We all have our pet ambitions. Some of us want to be a Cabinet Minister or a bank manager, or a headmaster or a leading lady; some of us want to marry and live happily ever after; some of us want to be able to whistle on our fingers, or do card tricks, or be a success with dogs; some of us want to reform the world; some of us want a stream yacht or a pearl necklace or a permanent box of Covent Garden; and some of us want a little greenhouse. It is comforting to learn that at least one of us has achieved his heart's desire, and is not ashamed to admit it. "I've always wanted a little greenhouse, and now I've got it." Oh! wise, happy and humble creature, who did not hitch his heart to the unattainable.—The Times.*

# Practice Management

The Journal Committee has found an increasing demand for a Section in the Journal on "Practice Management". You are invited to send your suggestions on office management and practice, or concise articles on some phase of this subject to the "Editorial Office," 314 Somerset Building, Winnipeg.

## *Dental Practice*

by HARRY G. MORTON, Milwaukee, Wisconsin
*(Excerpt from the Journal of the A.D.A.)*

A SUCCESSFUL business man utilizes all available material to make his work successful. He has heads of departments who are highly specialized to work out every detail of their departments, and his administrative ability is devoted to seeing that these heads are successful in their administration. No one would think of denying a successful business man the services of the certified accountant or the highly skilled stenographer, and no one would think of denying a manufacturer the services of chemists, metallurgists and highly skilled scientists in his experimental or developing departments. It is a part of his success to know what materials have in them and how he can best use them for his purpose.

And so in the practice of dentistry, exactly the same conditions exist. We should be surrounded by persons equipped to preserve the health of the patient and to maintain a working set of human teeth. Are we availing ourselves of the opportunities that are before us and have we the constructive imagination to avail ourselves of all these details to make ourselves more successful? I say no. And should we be denied the use of any group of specialists in any branch of constructive, preventive or health programs who are better enabled to administer health programs to the public under our supervision?

It is estimated that the cost of the six-year course in any recognized dental college entails an outlay of approximately $7,000 to $8,000. It would seem, then, that more men should avail themselves of the means of caring for the multitude of details which constitute a successful dental practice.

The first step in this direction is the training of the dental assistant, whose aid is imperative for successful dental operations. I use the word "imperative" and emphasize the fact that I do not believe it possible for any dentist to do skilful dental work without one to two dental assistants. And the dentist himself must have constructive imagination sufficient to so train these assistants that they are efficient. I do not believe it possible for any practising dentist to progress without the aid of a hygienist, and above all, to fulfil the obligation implied in his dental degree by practising preventive dentistry. Without a trained associate such as a dental hygienist, he is utterly helpless, as this branch of work should be delegated to her, just as the business man delegates his problems to the lawyer and the architect. The successful business man has

his certified accountant, his chemists, his metallurgists, his stenographers, his cost man, his sales department, his supervisor of sales, etc. If he does not have these aids or has not the ability to procure them, or is denied by law their use, he is hopelessly handicapped in attaining the ideals for which he is striving. Success in business is largely the result of executive supervision, the administration of the various departments in businesses, in the professions and in institutions.

If I were to be denied the aid of the dental hygienist in my practice, I should be compelled to quit. She is more important in the administration of my practice than any one other human element. She is the buffer between the patient and the operator. She knows psychology and she prevents emotional outbursts. She soothes those patients who find difficulty in restraining themselves. She fosters the child clientele because she realizes that no practice can continue to be successful without the child patient. The hygienist watches over these patients and prescribes their home treatment and care. She discovers numerous carious cavities, especially through the use of the bitewing film. She saves the operator's time, allowing him to devote more time to the constructive features of practice, so important to success.

Many of you are thinking of abuses that would come with the hygienist and that was one of the big questions in the final arguments of organized dentistry in Wisconsin. There always have been abuses and there always will be abuses, in organized business, in organized professions, in organized society; but with the laws so specific, the opportunity is very small for the dental hygienist to do anything that is not prescribed by law.

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## *Aids to Establishing a Successful Dental Practice*

(1) Be at all times interested in the patient's comfort.

(2) Always, upon removing the rubber dam, wash the patient's lips with warm water and dry them. Before placing the dam use vaseline on the lips.

(3) Ask repeatedly (especially when the answer is sure to be "no") if this hurts.

(4) Protect the patient's clothing with proper covering.

(5) Always telephone in the evening or the next morning after doing an extraction.

(6) Talk "health" and make another appointment for three to six months later.

(7) Attend lodges, lunches, clubs, civic affairs, etc.

(8) Set a goal, say 10 new acquaintances each week and make it.

(9) Sell dentistry for the value to the patient, not the cost.

(10) Mix tact, diplomacy, politeness and common sense well with business acumen, and you have a cocktail called "success."

*P. W. T., Seattle, Wash.—Dental Survey*

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*You sometimes hear people say they have been so busy that they have "hardly had time to breathe." But they do not often realize that in this platitude they have expressed truth. Nervous strain does limit and disturb the natural breathing. At intervals during the day it is a good plan to pause and take several deep breaths, letting the body sink during each exhalation.—Health and Efficiency.*

# Problems in Practice

**PROBLEM FROM ALBERTA:**

In a paper entitled "Local Anaesthesia in Ano-Rectal Disease" by Dr. F. B. Bowman, which appeared in the October issue of the Canadian Medical Association Journal, the author recommended the use of isoamylhydrocupreine with procaine to produce local anaesthesia and the claim is made that it is not only of low toxicity, compatible with adrenalin, and germicidal, but has an analgesia effect for as long as several days in some cases.

Ingram and Bell advertise this product under the name of Analcaine Compound which contains procaine hydrochloride 1%, isoamylhydrocupreine dihydrochloride 1:500, in Ringers Solution. I presume that adrenalin would have to be added when used for dental surgery.

I am very interested in learning whether this product has a definite use in dental surgery in such cases as the extraction of an impacted third molar or the treatment of a dry socket, etc., on account of the prolonged analgesia effect. —*John W. Clay, Calgary.*

**REPLY FROM QUEBEC:**

Isoamylhydrocupreine is the German preparation "Eucupin" and is a quinine derivative.

Some years ago quinine urea hydrochloride was used as a local anaesthetic but it was found to cause degeneration of tissue followed by fibrosis; I presume this has been overcome. In the new preparation it is quite safe in the concentration mentioned in the problem; however, the analgesia properties last for 36 hours only. I can see no reason why it cannot be used in dental surgery and I think the suggestion a good one. Naturally investigations along this line should be carried out in a properly supervised clinic.—*F. W. Saunders, Montreal.*

**REPLY FROM U.S.A.:**

Eucupin has considerable possibilities as a local anaesthetic, and these possibilities are just being exploited at the present time. I believe that if one had a patient in whom there was a very good reason for prolonging anaesthesia it would be worth trying. Our use of the agent here is so very limited I would not wish to say more than that about it.

—*Dr. Lundy, Dept. of Anaesthesia, Mayo Clinic, Rochester, Minn. Obtained by Dr. Louie T. Austin, Section on Dental Surgery.*

**REPLY FROM ONTARIO:**

In a recent article, Dr. Bowman recommends Analcaine, with 8 minims of adrenalin to the ounce, for exodontia. As accidents will occur, I prefer to allow some other individual to do the experimenting. I have had no personal experience with it.

—*Fulton Risdon, Toronto.*

**REPLY FROM ONTARIO:**

In regard to the use of "analcaine compound" which contains procaine hydrochloride 1% and isoamylhydrocupreine dihydrochloride 1:500 in Ringer's solution, I am given to understand that as yet, this drug has not been used in sufficient quantities in a sufficient number of operations to determine accurately the post-operative results.

Its use to date in ano-rectal disorders seems gratifying. Since "analcaine compound" is compatible with adrenalin there seems to be no reason why its use in dental surgery cannot be anticipated in the future. Certainly its prolonged analgesic affect would, in the case of more difficult dental surgery, be an added advantage prompting its use.—*George A. Morgan, Toronto.*

# The Forum

## • GENERAL ANAESTHESIA IN MAJOR DENTAL SURGERY

by CLINE N. CHIPMAN, M.D., Washington, D.C.
*(Excerpts from paper in Am. J. of Ortho. and Oral Surg.)*

### Preoperative Preparation and Premedication

IN DENTAL surgery the proper preoperative preparation and premedication have a very important bearing on anaesthesia and surgery during the operative period and the postoperative recovery of the patient. All patients are instructed that the night before operation they should have a light dinner, take a mild purgative, go to bed early, and in order to insure a good night's rest they are given a dial tablet or some similar hypnotic. They are instructed to report without breakfast at least two hours before the operation.

Recently a society girl was to have a major dental operation and she was quite nervous; in trying to get her to relax somewhat before I started the anaesthetic, I asked if she had had a good night's sleep. She replied that she had stayed up until 4 A.M. drinking high balls and smoking cigarettes. She had done this thinking she would be tired and sleepy the next day and would sleep the afternoon after the operation. Her anaesthetic was difficult and her recovery was stormy.

I mention this case to show the importance of giving the patient preoperative instructions, and also to give you an insight into how little patients know about preparing themselves for an operation. We all know that the acutely intoxicated patient is anything but a desirable anaesthesia patient; yet it is surprising how many dental patients will fortify themselves with alcohol if not properly instructed.

### Premedication

Most patients who have had a dial tablet or some similar hypnotic the night before will be somewhat drowsy the next morning. If we are going to use nitrous oxide and oxygen, we usually repeat a dial or nembutal tablet two hours before the operation or give ¼ gr. morphine sulfate hypodermically one-half hour before the operation. Both have their advantages and disadvantages.

With the least resistant patient a barbiturate works very well, produces more sleep and less nausea, so that the patient passes most of the operative day sleeping.

Morphine sulfate acts better with the more difficult patient; it produces more relaxation, thus greatly aiding nitrous oxide and oxygen anaesthesia. It also relieves postoperative pain for some time. The patient does not sleep so much as when a barbiturate is used, and there is likely to be more nausea.

With ethylene-oxygen and avertin no premedication is used except the hypnotic the night before the operation. I feel that all operative patients, regardless of the kind of anaesthesia that is used, should have a hypnotic so that they obtain a good night's sleep.

Morphine sulfate gr. ¼ and atropine sulfate gr. 1/150 are the best premedication for ether anaesthesia; it reduces the amount of ether needed and retards the secretion of excess mucus.

### Conclusions:

1. Many dentists and physicians lack the proper knowledge as to what their

patients should expect when they are sent to the dental surgeon.

2. Local anaesthesia has many disadvantages.

3. I believe general anaesthesia is better than local for major dental surgery.

4. There is a type of general anaesthesia which will fit any operation for major dental surgery.

5. Avertin and nitrous oxide and oxygen is the nearest to a perfect anaesthetic we have for major dental surgery.

6. Many patients up for major dental surgery are not given the best preoperative preparation and premedication.

### • STOP THUMB SUCKING

THUMB-SUCKING is condemned by Dr. Leland R. Johnson of Chicago. A study of 989 cases of malocclusion in children between the ages of 2 and 19 years showed the following results:

1. That 173 or 17.49 per cent of the 989 malocclusion sufferers were or had been thumb or finger suckers.

2. Of 153 thumb suckers, seventy-eight or 50.98 per cent were suffering from Class 1 malocclusion; seventy-three or 47.7 per cent were in Class 2, and two or 1.3 per cent were in Class 3.

3. Of those that had sucked thumbs or fingers, 24.28 per cent had the habit for one year or less; 60 per cent had broken the habit at the end of the third year and 10 per cent had sucked the thumb ten years or longer.

4. Malocclusion in the deciduous teeth may correct itself after the thumb-sucking habit is broken if normal function of the lips exists, otherwise, in all probability the malocclusion will persist.

5. Prevention of the thumb-sucking habit in infancy is advisable.

Dr. Frank F. Lamons of Atlanta, Ga., says that, "The public is now asking not how can dental disease be corrected but how can it be prevented. They are asking how can I prevent my child from having crooked and ugly teeth. The family dentist has the same responsibility in regard to the health of his patients as has the family physician. He must understand the stages of growth and the development of jaws from infancy to maturity to be in a better position to observe abnormalities as they arise.

—*N. Y. Jour. of Dent.*

### • INCOME TAX

WITH that perennial *bête noire* — income tax — rapping on our door again, and reformers harping on the inability of the low-salaried class to purchase medical care, a colleague sees a fine chance to kill two birds with one stone. He suggests classifying the cost of medical treatment as a deductible income-tax item.

The proposal will appeal to many. For, surely, they will say, if the Government would insure the working man's health, it should not appropriate the financial margin necessary to enable him to buy medical care. The business owner is allowed to deduct the price of repairs, maintenance, and depreciation on his property.

Why should this privilege be denied the employee, whose working capital is his body?

There might also be practical advantages for doctors. For, since medical fees would have to be *paid* before they could be deducted, slow-pays might be more willing to settle promptly.

There is no lack of precedent for such a law. Minnesota has one. It was passed after people complained that they could not understand why a farmer, for instance, could deduct veterinarian fees for his sick cow and not the doctor's bill for his sick daughter.

—*Medical Economics, Feb., 1939.*

## • ALLEGED HEMOSTATIC ACTION OF GELATIN, COAGULEN, FIBROGEN AND HISTIDINE ADMINISTERED BY MOUTH

by M. L. TAINTER, M.D.; A. H. THRONDSON, D.D.S., and A. P. RICHARDSON, M.D., San Francisco, Calif.

### Conclusions of Paper

1. The coagulation times of healthy subjects were measured twice daily and continuously for periods of many months. During this time, two-week intervals of oral medication with some alleged hemostatic agents were alternated with periods without medication. The average coagulation times during the periods without medication, before and after medication, were compared with those when the agents were administered. The average values so obtained were analyzed statistically for their probable reliability to determine whether the changes could be accounted for on the basis of chance fluctuation in the individual measurements.

2. Administration of gelatin by mouth three times daily in doses of 15 gm. did not change the coagulation times in six subjects.

3. Administration of 5 gm. of coagulen daily by mouth also did not shorten the coagulation time in five of seven subjects, and in two produced changes of no real clinical significance.

4. Fibrogen administration in daily doses of 15 cc. by mouth caused no changes in the coagulation time of six subjects.

5. Histidine administration in doses of 0.2 gm. twice daily by mouth caused a shortening of the coagulation time in only one of six subjects. Therefore, these negative results in the majority were not in keeping with the statements made regarding it as an effective hemostatic when given by mouth.

6. In two other subjects, oral or intramuscular administration of the same dose of histidine did not reduce the coagulation time when observations were made at hourly intervals throughout the day. Therefore, no confirmation was made of prior statements that histidine shortens the coagulation time 50 per cent at the end of three hours.

7. The results of this study, taken with those previously reported in The Journal and from this institution, leave no doubt that the agents commonly advocated for oral administration as hemostatics in dentistry are not effective when so used. The dental practitioner is advised to direct his efforts at controlling hemorrhage to local application of demonstrably effective agents rather than to try to speed up the coagulation process by systemic medication.—*Jour. A.D.A., March, 1939.*

## • FUNCTIONAL NEUROGENIC LESIONS

by ARTHUR WOODBURNE, M.D., Grand Rapids, Mich.

FUNCTIONAL neurogenic lesions such as glossitis areata exfoliativa, Moeller's glossitis and burning tongue are probably all similar lesions. They are characterized by sensations of burning and pain in the tongue not associated with demonstrable organic cause. The tongue usually shows localized or diffuse edema with some areas particularly on the sides showing loss of surface papillae. Some areas give a maplike appearance and therefore the name geographic tongue.

Lesions of this group are usually found in patients who are under strain, are fatigued or are in other ways nervously upset. Treatment must be directed toward general tonic measures, such as more rest, relief of nervous strain, mild sedatives such as bromides, cod liver oil, exercise and a balanced diet. Of course, any local irritation such as deposits of tartar, uneven or jagged teeth, etc., should be corrected.—*Jour. Mich. State. D. Soc.*

*Editor*—M. H. GARVIN, Winnipeg

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# Chronic Oral Infection

In a very able and thought-provoking paper presented by Dr. E. Wilfred Fish, of London, England, before the American Dental Association at St. Louis last October, and published in the Journal of that Association last May, the essayist clarifies many of the problems which have been perplexing the members of our profession for many years.

Dr. Fish points out that it is widely recognized that the resorption of bone from the alveolar crests in pyorrhea, or from the region around the apex of a pulpless tooth, is due to infection, but that it is not true that there are any infecting organisms actually present in this resorbing bone or that there ever have been any present; that the germs themselves are confined either to the débris of the pocket or to the necrotic contents of the root canal; that only the soluble poisonous products of their activity actually invade the living tissues. He states that around the apical canals of a pulpless tooth or around a pyorrhea pocket there is a cordon of polymorphonuclear leukocytes trying even to squeeze into the root canal to get at the organisms; and that it is impossible to believe that one of these immobile vegetable organisms could force its way through this cordon of highly motile leukocytes. Around this

area the tissue, though not infected, is contaminated by the poisons which emanate from the infected area and which kill the bone cells. In the adjacent tissue which also lies within this zone the normal cells have for the most part similarly disappeared and the whole tissue is converted into a mass of round-cell infiltration, which cells have been attracted by the toxic products of the streptococcus. Beyond this zone of severe contamination where normal cells cannot survive, the toxic matter becomes more dilute by diffusion, but is still sufficiently concentrated to constitute a serious irritant, indicated by the continued infiltration of the tissues by round cells. It is at this point that the osteoclast and histiocyte are found in response to toxic irritation, and carry on their usual function of tissue resorption, the result being that a gap is opened up in the bone around the centre of the lesion as trees are felled to isolate a forest fire. The space becomes filled with polymorphonuclear leukocytes and until that has taken place, the danger of widespread bone necrosis remains. There can be no organism present at any point where bone is actually being resorbed.

It is stated further that beyond this zone of irritation there is a zone of intense cellular activity which is constructive in purpose, the toxic products having reached such a degree of dilution that they no longer constitute an irritant but rather act as a stimulant. Here fibroblasts and osteoblasts build masses of fibrous tissue and bone with amazing rapidity. Rarefaction, therefore, is not itself an infected area but is an indication, not only of the local destruction caused by the poison, but also of the amount of general intoxication which the lesion is inflicting on the patient and of the patient's susceptibility to the irritant. Bone sclerosis is, on the other hand, an indication that the amount of toxic matter which enters is rapidly diluted to a point where it acts as nothing more than a stimulant and is probably doing little harm.

Dr. Fish states that in the case of a pyorrhea pocket the infection is entirely confined to the pocket and that treatment consists in cutting away the pocket and then having the patient keep the surface epithelium hard and well keratinized by frequent friction with a soft brush and rubbing with wooden points between the teeth so that there can be no more seepage of toxic matter.

In the case of the pulpless tooth he states that, if the tooth is not causing any apical rarefaction, there is less poison being absorbed by the patient than there would be from one small pyorrhea pocket, an amount which does cause obvious bone resorption.

The essayist also states that live bone should never be scraped; it is never infected; that there is no such thing as "residual infection" in bone because there was never any original infection in the living bone, granting that no dead root, or sequestrum of dead bone or such necrotic nidus has been left; and even then surgical interference must be limited to the removal of the offending body.

Dr. Fish has shown that the organisms frequently found at the apex or in the pulp of an extracted tooth are due to the pumping of bacteria into the blood stream from the pyorrhea pocket during the act of extraction; that organisms were recovered by Okell and Elliot of University College Hospital, London, from the blood taken from a vein in the arm five minutes after pyorrheal teeth had been extracted. This finding is of the utmost importance to the dental profession and the essayist claims to have overcome this problem by passing a red hot cautery wire around the periodontal sulcus of the tooth which has to be extracted.

One might conclude from this paper, unless it were read very carefully, that because bacteria are restricted to the necrotic nidus and are not found in the surrounding tissues and that "it is impossible to believe that one of these immobile vegetable organisms could force its way through the cordon of highly motile leukocytes," that apart from the problem of the extracting of teeth, that focal infection, as far as the mouth is concerned, is a matter of little concern. In this connection we would emphasize one sentence found in this paper, namely: "It was even found that chewing a hard piece of toffee or candy would cause a transient bacteriemia in a patient who had a marked pyorrhea."

Dr. Fish, in a paper entitled "Local and Remote Sequelae of Infection in the Parodontal Sulcus," appearing in the "Proceedings of the Royal Society of Medicine," July, 1937, also in a paper presented to the American Dental Society of Europe of the same year and further in an address delivered at the North Australian Dental Congress in Sydney, points out, most emphatically, the systemic danger of neglecting to treat periodontal lesions. He states: "The danger to the patient's health is first from the bacterial shower into the blood stream which occurs on eating or on extraction of the teeth. Normally this transient bacteriemia disappears very rapidly and does no harm, but there are exceptions. The organism may become implanted in a fibrinous vegetation of a heart valve in cases of active endocarditis, since these fragments of non-vital fibrin lie actually in the blood stream and offer a safe breeding ground for the germs. The result is a fatal bacterial endocarditis which, in 95 per cent of cases, is due to *streptococcus viridans,* the true mouth streptococcus. The vegetations may persist, however, for a long time, and the danger of a shower from chewing is so grave that the patient should be put on a soft diet. He must not brush or rub the gums while the heart vegetations are present, but may only hold in his mouth frequently very hot mouth washes, such as permanganate of potash and peroxide of hydrogen. The safest treatment is to pack the pockets with zinc oxide and oil of cloves, mixed rather thin and incorporated with wisps of cotton-wool. The dressing is tucked, rather than packed, into the pockets with the utmost gentleness and as the inflammation subsides, scaling, and even gingivectomy, may be carried out quite safely."

"A second danger from a bacterial shower, which may occur in anyone

however healthy otherwise, is that during the few minutes, or possibly hours, that the organisms are circulating in the blood, the individual may bruise a bone and imprison some of the bacteria in the clot, thus setting up an osteomyelitis."

"In the case of arthritis or fibrositis it may be assumed that the effect of oral sepsis on these diseases is due to the absorption of soluble toxic material and not to the direct spread of the germs themselves to the site of the lesion."

In these days dentists are too often interested chiefly in the mechanical or engineering side of their profession and overlook these very serious infective conditions in the mouth which should receive their very first consideration. It behoves us to stress, in every possible way, the importance of recognizing early these insidious gingival involvements which eventually develop into serious periodontal lesions, jeopardizing the very lives of the patients who have entrusted to us, from a health standpoint, their well being.

Dr. Fish has outlined a very simple and well-recognized method of dealing with these periclasia pockets, namely, to cut away the necrotic nidus and then keep the tissues in health by regular and thorough stimulation. Whatever technique is favoured, and there are several well-known methods of dealing with this problem, every general practitioner should become familiar with at least one technique which will enable him to eradicate these diseased conditions.

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## CORRESPONDENCE

To the Editor, Journal of the C.D.A.
Dear Sir:

In the May issue of the Journal, I was much interested in the editorial, "Why a Canadian Dental Association." I wish to take the privilege of making a few observations, with regard to the need for such an organization, as far as the western provinces are concerned.

Leadership, by strong organization of the dental profession, is one of the greatest needs of the dentists of all parts of the Dominion today. A strong national body such as the C.D.A. might become, could be the answer to many of the problems confronting us.

In the Province of Saskatchewan, we are being constantly faced with the problem that has come to be known as "relief dentistry." Dr. Fred Cooper, of Moose Jaw, has a very fine article, in the April issue of the Journal, on this subject. It is a problem which is becoming acute in this Province, and I have no doubt that similar problems are confronting the dental profession in other provinces.

This may seem at first, to be a matter that could only be dealt with by local provincial bodies. It has, however, a much wider scope than that. When we come to this matter of relief dentistry, we find that there is an alarming tendency for this type of dental relief to become the standard by which all dental service is going to be judged by the lay mind. Already it has instilled in the minds of a large section of the population a belief that this type of service represents the best that the dental profession has to offer, and that what the dentist receives in remuneration for his services for this relief work, constitutes adequate compensation, so that what was originally intended as a temporary relief measure, has now become, or is rapidly becoming the expected procedure.

State dentistry is something that the profession is going to have to cope with in the very near future. If the standard is allowed to gradually decline, when the time for organization of dental service by the state does arrive, the dental profession is going to have

great difficulty in convincing governments and laymen of the right of the dentist to a reasonable compensation for his services.

I would like, also, to refer to the suggestion in the editorial of the need for a full-time secretary and assistant to make surveys of the conditions of practice throughout the country. Such an officer would, to my mind, be of inestimable value to every practising dentist in the Dominion. Indeed, I think that such an officer is one of the essentials of every provincial organization as well. The medical profession in this Province has such an officer and his services are very much appreciated by the members of the medical profession. His entire time, in the summer months, is devoted to travelling through the Province visiting the towns and cities and even the smaller places where district societies are formed and district meetings are held from time to time. This procedure could well be followed by the dental profession.

Organization on a closer, more effectual basis is very necessary and is indeed the only means our profession has of becoming a body commanding the respect of those with whom it has to deal.

No dentist without respect for himself and the profession to which he belongs can render good service to his patients. Underpaid, dissatisfied dentists are as great a menace to the dental health of the country as are the ill-trained and the incompetent.

Fraternally yours,

*(Signed)* R. S. Rose.

Eston, Saskatchewan.

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# NEWS FROM THE PROVINCES

*ONTARIO:*

**Walter Earl Willmott Presented with Portrait**

One of the highlights of the Ontario Dental Association Convention held in June, in Toronto, was a luncheon tendered to Dr. Walter E. Willmott. It was an expression of love and esteem by over seven hundred of his dental colleagues and friends gathered from many parts of Canada and the United States. It was an occasion that will be remembered by those privileged to attend, as gifted and representative speakers spoke simply and with feeling, in eulogy and praise of a friend, an old friend, whom it was a delight to honour.

Dr. E. E. Bruce, of Kincardine, a former chairman of the Board of the Royal College of Dental Surgeons, was toastmaster. During his brief remarks he addressed the guest of honour as Dr. "Walter", not as a token of familiarity but as a compliment to him, referring specially to his even temper and tolerance. "A perfect gentleman at all times and by that I mean a gentle man. His high moral standard, together with his Christian influence, radiated from his personality upon all who came under his direction," he concluded. Dr. J. N. Stewart, President of the Ontario Dental Association, spoke of his ability to "direct without offence." Dr. N. S. Coyne, Chairman of the committee which undertook to organize the function, was absent because of the accidental death of his son, but in spite of his grief, sent his greetings and love. Dr. John A. Bothwell, Secretary of the Committee, read this message: "A precious friend, a man in whom there is no variableness." Dr. Stephen Moore, President of the Canadian Dental Association, because of his duties in London on the occasion of the visit of Their Majesties, our King and Queen, was unavoidably absent. His telegram follows: "Regret my inability to be present at complimentary dinner to Dr. Willmott. Please extend to him the felicitations and good wishes of the Canadian Dental Association. This gesture is particularly appropriate as no dentist in Canada is regarded with deeper affection by the members of the profession. God bless Walter Willmott." Dr. Bothwell then read a message from Dr. W. E. Trelford, President of the Toronto Academy of Dentistry: "Mr. Chairman, I am very happy to voice the common sentiment of so many friends—the fellows of our Academy. Dr. Willmott, the greatest honour within the gift of the Toronto Academy of Dentistry, an honorary life membership, was conferred upon you a short time ago. It expresses, better than words, the high place you hold in our hearts. We regard you as a man of high ideals and principles, possessing a sympathetic kindness and a sense of justice. Not a few here have

turned to you in time of trouble. We love you for these and many other virtues. You, sir, the only man who calls us each by name, have been, will always be, a wise and kind friend. May you enjoy a life of unbroken health and happiness, is the wish of your fellow members of the Academy."

Hon. Dr. H. J. Cody, President of the University of Toronto, conveyed the congratulations and best wishes of the staff of the University. He indicated that a man should not be chosen for professional training because of his educational standards alone; character must be given due consideration. Dr. Willmott fulfilled all requirements of a professional gentleman. "He was not only known to you as a professor and a teacher but as a friend—his heart is young and his sympathies fresh in spite of his three score years and ten. After you have known a man for 55 years, you find him out. You know Dr. Walter, you, from all parts of this province and other places; you love him and respect him and have pleasure in doing him honour," concluded Dr. Cody.

Dr. Endicott, pastor of Metropolitan Church, spoke of a life-long acquaintance with Dr. and Mrs. Willmott. He spoke of the contribution that the Willmott family had made to the work of the church. He said, "There is a young man who would dearly love to be here but he is well occupied in the University of West China in the City of Chengtu. I refer to a noble son, Earl Willmott, who is doing a noble and a great work."

At this juncture Dr. Flora Cowan presented Mrs. Willmott with a beautiful needlepoint bag, from the gift committee, and a bouquet of red roses from Dr. Charles Hartley, of California. The affection with which these gifts were received made many in the gathering swallow hard because everyone knows Mrs. Willmott's kindliness and cordial hospitality.

Dr. Andrew McDonagh spoke of the influence of the late Dean J. B. Willmott upon the profession of dentistry in Canada and in Ontario in particular. "It was his vision and ability that initiated and gave impetus to the progress that has been made in dentistry during the last half century. His son, Walter, whom we honour to-day, has done much to carry to fruition many of the principles instigated by his father." Dr. McDonagh then unveiled a portrait of Dr. Walter and presented it to him together with a cheque on behalf of his colleagues and friends.

Dr. Willmott rose in reply, deeply affected by the honour tendered him. For a time his usual smile was not there but as he recalled the 3000 students that passed under him and the happy associations he had with his boys, many of whom were now grey-haired men, his smile returned.

In conclusion, Dr. "Walter" presented his portrait to the Board of the Royal College of Dental Surgeons to be hung in the Faculty of Dentistry building, and it was appropriately accepted by Dr. Ernest C. Veitch on behalf of the President, Dr. Hogan.

And so the luncheon was over but long to be remembered as an occasion of tendering well merited esteem to a worthy colleague, with love and affection from the hearts of all.

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**Ontario Dental Association**

The Ontario Dental Association has concluded another successful convention. In point of numbers there were nearly five hundred and fifty members present with as many more guests including members' wives, dental nurses, visiting dentists and exhibitors. This attendance speaks well for the interest in the usual program of this meeting, when it is remembered that Their Majesties, the King and Queen were visiting Western Ontario at that time.

The program of the convention was well arranged and well presented. While members and guests were arriving during the first morning, quite a number of association members gave short table demonstrations covering a great many phases of dental practice. In addition, about twenty members of the Ontario Dental Nurses' and Assistants' Association presented many useful suggestions for efficiency in the modern office.

President Dr. J. N. Stewart of Hamilton, in his opening address made reference to the value of our conventions in promoting the progress of our science. He said, "It is our duty as members of this society to bring our new ideas, our new methods, our success in practice and dump them on a common sorting table so that we may sift the wheat from

the chaff and pass on the benefits of our findings to the public at large through our individual practices". Further, he pointed out that new theories are being constantly advanced as solutions of dental problems, oftentimes by investigators unfortunately termed "faddists" or "extremists," yet these same investigators have made worthwhile contributions to our knowledge of many subjects. "New methods of treatment must be tested, new systems of living must be tried, in the hope that the sum total of our factual knowledge will be increased," he concluded.

The visiting guest essayists of the convention were—Dr. Sydney Joffe of Washington, D.C., Dr. Ralph Somner of Ann Arbor, Michigan, Dr. R. E. Ramaker of Mussoula, Montana and Dr. H. H. Kabnick of New York. Each presented a paper and two successive lecture clinics. Dr. Jaffe's subject, "Balanced occlusion with a plain line articulator," was intriguing and he did not disappoint his hearers. Dr. Somner's presentation of "Conservation of pulp involved teeth," emphasizing apiectomy as a conservative and practical treatment, proved very interesting. Certainly his slides indicated that splendid results are obtainable. Dr. Kaknick presented a well prepared lecture and clinic on fixed bridge abutment preparations in addition to his paper. His work was beautifully and clearly illustrated by his motion picture. Dr. Ramaker presented an unusual paper and clinic for a dental convention. His work illustrated some of the malformations in the bones of the jaws and face of the infant caused during birth. He indicated that in his opinion a high percentage of facial irregularities in adolescent and adult life was due to failure to make corrective treatment for the new born infant. Splendid lecture clinics were also given by members of the association as follows—Dr. Sydney Bradley, Ottawa—Some newer methods in orthodontia; Dr. Fulton Risdon—Surgery in Western Hospital; Dr. T. C. Moyle, Hamilton—Radiography; Dr. I. H. Ante and Dr. Frank Martin, Toronto—Full dentures; Drs. Helen Manchester, Alma McEwen, Marion Joy, Flora Cowan, Margaret Cowan, Marion Priest and Arrabelle McCallum, Toronto—Group clinic; Dr. Frank Cole, Toronto—Partial denture impressions; Dr. Stewart Crouch, Toronto—Physiology of mastication; Dr. Harold Box, Toronto—New findings in cause of caries; Dr. P. G. Anderson, Toronto—Gold inlay technique; Dr. S. M. Richardson, Toronto—Radiography; Dr. W. B. Amy, Toronto—Removal of fractured roots; Dr. H. A. Ross, Toronto—Cavity preparation for amalgam; Dr. R. G. Ellis, Toronto—Fractured anterior teeth of permanent dentition; Dr. H. W. Hoag, Toronto—Immediate denture insertion; Dr. J. M. Sheldon, Toronto—Porcelain; Dr. L. F. Krueger, Toronto—Pulp conservation; Dr. S. Copeland, Toronto,—Pin inlays and cast crowns; Dr. Samuel Leslie, Toronto—Facial neuralgias; Dr. J. Kreutzer, Toronto—Preventive measures; Dr. Douglas M. Tanner, Toronto—Diseases of the oral mucosa and lips; Dr. Willard Box—Oxygen therapy in treatment of peridental lesions; George E. Hay, Ph.D., Toronto and Dr. Murray L. Dyment, Toronto—The factor of stress in peridental treatment; Dr. George Morgan, Toronto—Exodontia.

These clinics were invariably well presented and indicated the amount of work entailed in their preparation.

There is always interest in the special features of any convention. During luncheon on the opening day Dr. A. R. Dafoe, physician to the famous Dionne sisters, gave an informal chat about these children. This was followed by an address with lantern slides by Dean Mason of the Faculty of Dentistry of the University of Toronto, in which he indicated the dental health and development of each of the five. In closing his address he promised that each member of the association would receive a brochure, setting forth the material of his address together with added features.

In honour of late Dr. C. A. Kennedy, Dean Mason unveiled a bronze plaque and presented it to Mrs. Kennedy on behalf of the Ontario Dental Association, Royal College of Dental Surgeons and the Faculty of Dentistry.

The luncheon of the second day was given in honour of Dr. W. E. Willmott as reported elsewhere in this issue.

As usual the ladies' committee of the association, under the leadership of Mrs. K. R. Harris, contributed splendidly to the success of the convention. It has been customary for this committee to arrange the President's dinner and dance for some years. While the

attendance this year was not as great as usual, the party was a highlight and those present enjoyed the delightfully planned and well arranged social evening. The committee also entertained about 100 visiting ladies, who were guests of the association, to supper and bridge during the evening of the first day of the convention. Those who assisted Mrs. Harris follow—Mrs. J. N. Stewart, Mrs. R. S. Woollatt, Mrs. E. W. Paul, Mrs. G. V. Morton, Mrs. W. G. Trelford, Mrs. L. Schumacher, Mrs. J. M. Sheldon, Mrs. E. A. Grant, Mrs. Ross Thomas, Mrs. T. R. Marshall, Mrs. R. Hendry, Mrs. W. B. Amy, J. H. Duff, Mrs. Harvey Reid, Mrs. W. J. Kerr and Mrs. E. T. Guest.

In bringing this brief report to a close it must be admitted that many interesting sidelights have not even been mentioned, nor have other features been reported adequately. It has been made obvious, however, that a great many Ontario dentists are interested in their association and are not only anxious to attend but are willing to make sacrifices in time and effort to make the convention a success.

*T. R. M.*

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**C.D.A. Delegates**

At the last meeting of the Ontario Dental Board two new delegates were appointed to the Canadian Dental Association: Dr. Frank Blatchford, Fort William, and Dr. G. Harrold Campbell, Orangeville.

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**Officers of O.D.A.**

Officers of the Ontario Dental Association for 1939-40 are as follows:—

Honorary President, Dr. J. N. Stewart, Hamilton.

President, Dr. G. V. Morton, Toronto.

President-Elect, Dr. Ira W. Hamilton, Ottawa.

Historian and Archivist, Dr. E. W. Paul, Toronto.

Board of Governors:

Dr. E. A. Grant, Toronto.
Dr. S. Lee Honey, Timmins.
Dr. R. C. McCutcheon, Highgate.
Dr. G. O. Hutchinson, Ottawa.
Dr. Gordon L. Frawley, Toronto.
Dr. John H. Duff, Toronto.

Secretary-Treasurer, Dr. F. J. Conboy, Toronto.

Public Dental Health Committee: Dr. A. E. Higgins, Toronto, (Chairman); Drs. E. T. Guest, Frank Martin, T. R. Marshall, M.A., Ross Thomas, and R. D. Thornton, all of Toronto.

Benevolent Committee: Drs. R. S. Woollatt, (Chairman), J. A. Bothwell, and F. L. Henry, all of Toronto.

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**Dentists Meet Their Majesties**

Dr. and Mrs. Harold Hoag, Dr. and Mrs. Walton-Ball and Dr. and Mrs. Hugh Ross were among those invited to meet Their Majesties the King and Queen at the Ontario Government reception during the recent Royal visit to Toronto.

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**Lion's Club President**

Dr. Lloyd Saunders has been elected president of the North Toronto Lions' Club. Congratulations, Lloyd!

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**Toronto Dental Nurses' Alumnae Association**

The annual dinner of the Dental Nurses' Alumnae Association, in honour of the Graduating Class of Dental Nurses, was held at the Granite Club, Toronto, on June 7, following Commencement Exercises at Convocation Hall. The guests were received by Miss Dorothy Collett, President, and Miss Eleanor Crerar, Social Convener.

Miss Collett, as Chairman, proposed a toast to the King and after the National Anthem was sung gave her best wishes to the Graduating Class. She then called on Miss Edith Brown to propose the toast to the Graduating Class. Miss Jean McIntyre, President of 3T9 responded. A toast to the Alma Mater was proposed by Miss Marion Gwyn and a response was made by Miss Grace Singer of the Faculty of Dentistry's nursing staff. During the dinner Mrs. Beth Ellis rendered some delightful solos.

There was a very happy moment for all members when Mrs. Lorne Baker, a former President, made a presentation of a silver cake plate to Miss Collett, a bride-elect of next month.

At the annual meeting, the retiring President, Miss Dorothy Collett, was presented with a beautiful gold compact with suitable

engraving, a gift of appreciation from her fellow officers.

The following officers were elected for 1939-40: President—Miss M. Joyner; Vice-President—Miss R. Grimmon; Recording Secretary—Miss A. Lindsay; Corresponding Secretary—Miss J. Lindsay; Assistant Corresponding Secretary—Miss H. McKinley; Treasurer—Miss M. Brown; Entertainment—Miss E. Crerar; Welfare—Miss E. Smith; Membership—Miss M. Gwyn; Advisory Committee—Dean A. D. A. Mason, Dr. W. E. Willmott and Dr. R. G. Ellis.

*QUEBEC:*

**Montreal Dental Club**

The May meeting of the Montreal Dental Club was under the chairmanship of Dr. R. E. McMahon, who conducted one of his popular Question and Answer evenings. The following questions were answered by the members indicated:—

1. What influence, if any, have third molars on orthodontic treatment? Dr. A. A. Winn.
2. How would you manage post-operative hemorrhage? Dr. Edmison.
3. What advantage, if any, has root resection over ionization? Dr. Richardson.
4. How long should a patient wait for dentures after extraction? Why? Dr. Cameron.
5. What drugs do you use in Vincent's disease? What is their function? Dr. H. R. Cleveland.

Dr. D. D. MacDonald spoke on "The Delinquent Debtors' List."

The Annual Golf Meet took place on June 14 at Summerlea Golf Club.

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**Preliminary Announcement**

FIFTEENTH ANNUAL FALL CLINIC
under the auspices of
THE MONTREAL DENTAL CLUB
MOUNT ROYAL HOTEL SEP. 27, 28, 29, 1939

"Essentials of Radiodontic Service"
Clarence O. Simpson, M.D., D.D.S., St. Louis, Mo.

"Minor Oral Surgery"
Don. E. Woodard, D.D.S., M.S.D., Kansas City, Mo.

"Inlay Bridgework, Porcelain Jackets"
Carlisle C. Bastian, D.D.S., New York, N.Y.

"Periodontia"
G. R. Lundquist, M.S., D.D.S., Chicago, Ill.

"Analgesia"
Walter V. McGilvra, D.D.S., Worcester, Mass.

"Economics and Practice Management"
Gaylord J. James, D.D.S., Cleveland, Ohio.

"Responsibility of Dentist and Orthodontist"
Lowrie T. Porter, D.D.S., New York, N.Y.

TABLE CLINICS:—
A series of some twelve clinics by members of the Ottawa Dental Society.

REGISTERED CLINICS:—
Dr. Simpson, Dr. Bastian and Dr. Woodard will each conduct a clinic from 4 to 6 p.m. on September 27th, 28th and 29th. The registration fee for the three clinics inclusively will be ten dollars and membership will be strictly limited to seventy-five.

FALL CLINIC MEMBERSHIP FEE INCLUDES TWO LUNCHEONS:—
Resident $10.00 Non Resident $5.00.

*For Preliminary Program (ready about August 15th) please communicate with the undersigned.*

DR. F. A. EDWARD
Medical Arts Bldg., Montreal, Que.

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**Mount Royal Dental Society**

Dr. Sidney Sorrin, Assistant Professor of Periodontia, N.Y.U. College of Dentistry, N.Y., addressed the members of the Mount Royal Dental Society on May 26. In the afternoon he explained his method of equilibrating the teeth. In the evening he lectured on the diagnosis and treatment of periodontal disease.

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**Dental Nurses and Assistants**

The Study Club of the Montreal Dental Nurses and Assistants Association met at the Montreal General Hospital on the evening of May 25, to listen to an instructive address upon the "Medical Examination of a Patient Prior to Operation."

Miss Martha Barber and Miss Grace Robinson represented the Montreal Dental Nurses and Assistants Association at the Ontario Convention on June 5 in Toronto.

*NEW BRUNSWICK:*

**45th Annual N.B. Dental Convention**

The 45th Annual Convention of the New Brunswick Dental Society was held in Moncton, July 3-4. The guest clinicians were Dr. John B. LaDue, of Chicago, internationally famous prosthodontist, who gave two complete clinics on full dentures, and Dr. P. G. Anderson, of Toronto, who discussed "Gold Work."

The Council of Dental Surgeons met on the morning of July 3.

*BRITISH COLUMBIA:*

**B.C. Dental Convention**

The British Columbia Dental Association Convention was held in the Empress Hotel, Victoria, and was one of the most outstanding meetings ever held. The guest speaker was Dr. David McLean, Los Angeles, California. His lectures were illustrated by a full complement of colour slides and films. A Life Program of Prevention in Everyday Dental Practice, was his subject. He described the evolution of teeth and carried through the treatment of prevention during childhood, early adult life; the period of tooth restorations and bridgework; later adult life; the partial denture period and occlusal diagnosis and correction. Dr. McLean has a personality that enthralls one and his sound common sense convinces one of every point he makes. Those who have had the privilege of hearing him speak, will, in spite of themselves, perform a greater dental service.

The Clinical section was also of a very high standard. Every branch of dentistry was demonstrated. To name any one group or clinician would not be fair to the other men, but this can be said, that for an annual meeting of two days a better balanced program would be hard to find. The Victoria Society is to be congratulated on its splendid arrangements.

The Victoria Golf Club at Oak Bay was the scene of the tournament on Saturday afternoon: Low Gross, Joe Bricker, Vancouver; Runner-up, R. Read, Tacoma, Washington; Low net, Bob Stuart, Vancouver; Runner-up, Pete Wescott who won the toss from McCauley, Victoria, and Horray Wood, Vancouver; Hidden Holes, R. H. Seale, West Vancouver; Poker Hand, N. Westwood, Victoria; Highest Score, H. Johns, Victoria.

The President, Dr. E. W. Hetherington, held a reception and cocktail party at The Empress Hotel, followed by a Dinner Dance and the presentation of prizes.

The new officers for 1939-40 are: President, Dr. Harry Grant, Vancouver; President-Elect, Dr. Douglas J. Sytherland, Vancouver; Secretary, Dr. Gerald Stibbs, Vancouver; Treasurer, Dr. Robert L. Pallen; Board of Censors, Dr. George Darts, Dr. V. D. Wescott, Vancouver, and Dr. Rumble, Victoria.

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**Vancouver Dental Society**

Aseptic Technique: Thoughts resulting from a tabulation of replies to a questionnaire on Asepsis in the Dental Operating Room, was the subject discussed by Dr. Leslie G. Robinson at the regular monthly meeting of the Vancouver Dental Society.

The election of officers for next season's session resulted in the following:—President, Dr. Hugh Munroe; President-Elect, Dr. Leslie Marshall; Sec'y-Treasurer, Dr. Kirk Oviatt; Board of Censors: H. L. Purdy, Leslie G. Robinson, John Dawson and Gerald Stibbs.

The results of the first Dental Golf Tournament, at the Point Grey Golf and Country Club, were as follows:—Leach Trophy, V. D. Pete Wescott; Ash Temple Trophy, Stanley McQueen; Century Cup, B. C. Dental Supply Co., George Bryant. Prizes were presented at an evening dinner and a real get-together meeting was held.

*ALBERTA:*

**Graduates in Dentistry**

The following are the 1939 graduates in dentistry from the University of Alberta: Morris Bay, Komsack, Sask.; George Davis Campbell, B.A., Edmonton; Kenneth Patrick Donnelly, B.A., Edmonton; Alvah Alvin Downey, Strathmore; Frederick Syas Walter Green, Saskatoon; Abram Harder, Rostern, Sask.; Richard Hawrish, Fish Creek, Sask.; Paul Hervieux, Edmonton; Carman McKee Johnston, Calgary; Fred Katz, Winnipeg; Claud Spencer Lea, Calgary; Roderick Archibald McEwen, Edmonton; Orville William Mickelson, Thordore, Sask.; Jens Munthe, Edmonton;

John Naimark, Leader, Sask.; William Orobko, B.Sc., Craik, Sask.; Richard Thomas Shillington, Calgary; Berhardt Wall, Great Deere, Sask.

*SASKATCHEWAN:*

**Western Canada Dental Society**

A large number of the dentists of the Province attended the Convention of the Western Canada Dental Society held in Winnipeg the last three days of May. As usual the dentists of Manitoba, and of Winnipeg in particular, worked hard and long to put over a splendid convention program and once more they succeeded to the satisfaction of all who attended. One could not help being convinced anew as to the value of this Society to the dentists practising between the Great Lakes and the Rockies. The provincial conventions have a very important place in maintaining and enlarging our circle of friends and in bringing an outstanding man to lecture and clinic each year. The greatest value to the individual, however, comes from meeting with the larger group, and in the information and inspiration received from several lecturers and clinicians, each a leader in his field. It becomes, in fact, a very real post-graduate course brought practically to our doors.

**Dr. G. L. Cameron Honoured**

Dr. G. L. Cameron, Swift Current, Past President of the Canadian Dental Association, is receiving the congratulations of his numerous friends on his recent election, by acclamation, to the Senate of the University of Saskatchewan, representing the dentists of the Province on that important body.

*MANITOBA:*

**Western Canada Dental Society**

Veni, vidi, vici; I came, I saw, I conquered, could very well have been said by each of five eminent dental surgeons who were the guest clinicians of the Western Canada Dental Society in Winnipeg at the Fort Garry Hotel during the three day biennial Convention, May 29-31. Four of the clinicians were from the United States. Dr. John B. LaDue, Prosthodontist of Chicago; Dr. Edward J. Ryan, Editorial Director of Oral Hygiene Publications, Evanston, Illinois; Dr. Stanley D. Tylman, Professor of Prosthetics at Illinois College of Dentistry, Chicago; and Dr. F. J. Viner, Dean of The Creighton University School of Dentistry, Omaha, Nebraska. The fifth visitor was Dr. George A. Morgan, Oral Surgeon, of Toronto.

Dr. LaDue dealt most ably with "The Principal Factors of Full Denture Construction," including a demonstration of impression taking for an edentulous patient. Dr. LaDue "has something," including a real sense of humour.

Dr. Ryan gave two addresses on "Dental Practice," one "A Preface to Dental Practice," and the other "A Technique for the Destruction of a Dental Practice." We wish we had heard these talks 35 years ago; we might have been able to retire now.

Dr. Tylman gave most interesting talks on "Fixed Bridge Restorations" and Dr. Viner spoke to a very appreciative audience on the subject which most dentists use and abuse, perhaps more than anything in dental service, namely, "Amalgam." The students under these two men can be masters of the subjects they teach if they want to apply themselves.

Dr. Morgan with his lectures and films on "Diagnosis" and "Surgical Procedures" compared most favourably with the other clinicians and left the impression that Canada, too, has men of who we can be justly proud. We consider that Dr. Morgan is outstanding among the younger men in the profession, and predict that he will soon be much sought after on the conference platform.

About 100 dentists from outside points attended, the total registration being 216.

Mrs. Ryan and Mrs. Tylman accompanied their husbands and seemed to enjoy the program of entertainment which had been arranged for the visiting ladies. Many of the local women also entered enthusiastically into the proceedings and enjoyed the opportunity of getting better acquainted with each other and with the visitors.

The next Convention of the Western Canada Dental Society will take place in 1941 at Edmonton, Alberta. The new officers of the Society include Dr. J. M. Dickson, Calgary, President; Dr. P. W. Winthrope, Saskatoon, 1st Vice-President; Dr. Kenneth M. Johnson, Winnipeg, 2nd Vice-President. Dr. H. R. McLean and Dr. Alex. Gemeroid, Edmonton, are Secretary and Treasurer respectively.

# EMPIRE NEWS

*GREAT BRITAIN:*

**Good Wishes to Their Majesties**

The President of the British Dental Association sent a telegram to Their Majesties on the eve of their departure for Canada. The following reply to this telegram was received:

"The President of the British Dental Association. Please convey to the Members of the British Dental Association and affiliated associations in Canada the sincere thanks of the King and Queen for their kind and loyal message of good wishes."

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**London School of Hygiene and Tropical Medicine, University of London, England.**

With the co-operation of Dr. H. S. Thomson, Field Secretary of the Canadian Dental Hygiene Council, a display of Dental Health Literature has been forwarded to the London School of Hygiene and Tropical Medicine, University of London, England, at its request. The display will form a portion of a permanent exhibition of this type of material which is kept available for the information of those interested.

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**Taxes**

The following is a sample tax rate on a childless, married man's income. On a $2,000 income the tax is $700; on $10,000 the tax is $2,373; on $25,000, $8,259; on $100,000, $52,400; on $500,000 a payment of $336,440 must be made.

The annual automobile tax on a 30-horsepower Ford is $185.—*Time.*

*AUSTRALIA:*

**Dental Congress**

Approximately 600 members are expected to attend the Congress of the Australian Dental Association in Melbourne in August. Among distinguished guests will be: Professor W. H. Gilmour of Liverpool; Dr. Arnold D. Mason, University of Toronto; Dr. Charles R. Turner, University of Pennsylvania; Dr. Robert Strang of Bridgeport, U.S.A.; Dr. J. Sim Wallace, King's College Hospital, London; Dr. Robert Ivy, University of Pennsylvania.

A warm welcome will be offered those who at great expense and sacrifice of time will come to the Congress from overseas. Their visit will forge another link with the profession in the countries from which they come, and the inspiration of their presence will not fade when they leave Australian shores. Many distinguished leaders in the profession have expressed kindly sentiments in reply to their official invitation, and will be with the Congress in spirit, although circumstances are preventing them from being present in person.

The Council of the University of Melbourne has granted the use of Wilson Hall, a building of great beauty and dignity, for the opening ceremony and for the holding of clinics and reading of papers.

August 21-26, 1939, will set a milestone in the progress of dentistry in Australia, as every phase of dental science and art will be reviewed and discussed.

W. A. Morrison, D.D.S.,
*Chairman, Publicity Committee,*
*Melbourne.*

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# GENERAL NEWS

**Committees and Representatives Canadian Dental Association, 1938-39-40.**

American Hospital Association

G. Vernon Fisk, 818 Medical Arts Bldg., Toronto; Harvey W. Reid, Toronto.

*Representatives:—*

W. W. Irwin, Moose Jaw, Sask.; W. Ibberson, Canada Building, Saskatoon, Sask.; W. Fraser Smith, Broder Building, Regina, Sask.; J. Stanley Bagnall, 78 Larch St., Halifax, N.S.; H. J. Merkeley, Med. Arts Bldg., Winnipeg, Man.; E. Cox, 925 W. Georgia St., Vancouver, B.C.; Archie Johnson, 925 W. Georgia St., Vancouver, B.C.; A. L. Walsh, Med. Arts Bldg., Montreal, P.Q.; F. W. Saunders, 1414 Drummond St., Montreal, P.Q.; Ernest Charron, 1505 Crescent St., Montreal, P.Q.; Ephrem Vinet, 362 St. Joseph Blvd. E., Montreal, P.Q.; George E. Decker, Edmonton, Alta.

Archives

J. Stanley Bagnall, 78 Larch Street, Halifax, N.S.

Canadian Army Dental Corps

Ira W. Hamilton (C), 202 Laurier St. W., Ottawa, Ont.; Frank M. Lott (Sec.), 230 College St., Toronto, Ont.; J. F. Blair, 241 Queen's Ave., London, Ont.; W. G. Trelford, 907 Medical Arts Bldg., Toronto, Ont.; E. Vinet, 362 Blvd. St. Joseph, E., Montreal, P.Q.; E. T. Bourke, 1414 Drummond St., Montreal, P.Q.; Kenneth M. Johnson, Somer-

set Bldg., Winnipeg, Man.; R. L. Pallen, 5870 Cartier St., Vancouver, B.C.; G. L. Cameron, Swift Current, Sask.; J. F. Edgecombe, 117 Union St., Saint John, N.B.

### Canadian Welfare Council

S. G. McCaughey, Med. Arts Bldg., Ottawa, Ont.

### Constitution and By-Laws

R. L. Pallen (C), 5870 Cartier Bldg., Vancouver, B.C.; A. W. Faulkner, 69 Gottingen St., Halifax, N.S.

### Dental Education Committee

A. D. A. Mason (C), 230 College St., Toronto, Ont.

### Dental Health Committee

H. S. Thomson (C), 312 Medical Arts Bldg., Toronto, Ont.; J. Nolin, 1469 Drummond Bldg., Montreal, P.Q.; J. Blanchard, Charlottetown, P.E.I.; G. R. Hennigar, Roy Building, Halifax, N.S.; J. F. Edgecombe, 117 Union St., Saint John, N.B.; R. D. Thornton, Medical Arts Bldg., Toronto, Ont.; C. Fred Jackson, Medical Arts Bldg., Winnipeg, Man.; A. J. Brett, Regina, Sask.; A. M. Revell, 313 Birks Bldg., Edmonton, Alta.; J. F. Hill, 925 W. Georgia St., Vancouver, B.C.

### Ethics Committee

G. L. Prestien (C), Galt, Ont.; M. J. Ruddell, Guelph, Ont.; E. C. Veitch, 2 College St., Toronto 2, Ont.; Stephen A. Moore (ex officio), London, Ont.

### Executive

Stephen A. Moore (Pres.), 260 Queen's Ave., London, Ont.; J. Stanley Bagnall (Sec.), 78 Larch St., Halifax, N.S.; G. L. Cameron, Swift Current, Sask.; E. T. Bourke, 1414 Drummond St., Montreal, P.Q.; R. L. Pallen, 5870 Cartier St., Vancouver, B.C.; A. W. Faulkner, 69 Gottingen St., Halifax, N.S.

### Finance

E. T. Bourke (C), 1414 Drummond St., Montreal, P.Q.; E. Charron, 1505 rue Crescent, Montreal, P.Q.

### Health League of Canada

R. D. Thornton, 308 Medical Arts Bldg., Toronto, Ont.; Ernest Charron, 1505 rue Crescent, Montreal, P.Q.

### Indian Affairs

Howard MacDonald (C), 1 Coburg St., Saint John, N.B.; F. F. Coughlin, 718 Granville St., Vancouver, B.C.; W. Wilson, North Battleford, Sask.; E. Roy Bier, 7 Medical Arts Bldg., Winnipeg, Man.; R. C. McCutcheon, Highgate, Ont.; J. C. McMullin, Fredericton, N.B.; James A. MacLeod, Bridgewater, N.S.

### Insurance Examination

Arthur E. Higgins (C), 2 Bloor St. E., Toronto, Ont.; Frank Boyaner, 63 King St., Saint John, N.B.; C. S. MacArthur, Truro, N.S.; J. A. McMurdo, Summerside, P.E.I.; W. B. Beattie, Med. Arts Bldg., Ottawa, Ont.; Garnet Leckie, Power Building, Winnipeg, Man.; J. P. Whyte, Clinic Bldg., Swift Current, Sask.; H. M. Cline, 725 Georgia St., Vancouver, B.C.

### Journal Committee

G. V. Fisk (C), 818 Medical Arts Bldg., Toronto, Ont.; Gerald Franklin, 1414 Drummond St., Montreal, P.Q.; Ernest Charron, 1505 rue Crescent, Montreal, P.Q.

### French Section of Journal

Paul Geoffrion (C), Medical Arts Bldg., Montreal, P.Q.; Gerald Baillargeon, Medical Arts Bldg., Montreal, P.Q.; Alcide Thibaudeau, 516 Sherbrooke St. E., Montreal, P.Q.

### Legislation

J. Stanley Bagnall (C), 78 Larch St., Halifax, N.S.; A. W. Faulkner, 69 Gottingen St., Halifax, N.S.

### Necrology

C. M. Fletcher (C), 5 Oliver Block, Lethbridge, Alta.

### Nomenclature

Gerald Franklin (C), 1414 Drummond St., Montreal, P.Q.; D. Prescott Mowry, 1411 Stanley St., Montreal, P.Q.; F. M. Lott, 230 College St., Toronto, Ont.

### Public Relations Committee

John S. Lapp (C), 1 Bellefair Ave., Toronto, Ont.; Fred J. Conboy, 86 Bloor St. W., Toronto, Ont.; J. C. Devitt, Bowmanville, Ont.; Arthur W. Ellis, 1301 Star Bldg., Toronto, Ont.; Andrew J. McDonagh, 2 Bloor St. E., Toronto, Ont.; E. C. Veitch, 2 College St., Toronto 2, Ont.

### Provincial Representative

E. Fraser Allen, Vancouver, B.C.; Frank Boyaner, 63 King St., Saint John, N.B.; R. R. Dalgleish, Sydney, N.S.; J. C. Flanagan, 1224 St. Catherine St. W., Montreal, P.Q.; Harold Johnson, Moose Jaw, Sask.; V. H. Macaulay, 301 Leeson-Lineham Bldg., Calgary, Alta.; J. A. McMurdo, Summerside. P.E.I.; H. J. Merkeley, Med. Arts Bldg., Winnipeg, Man.

### Research Committee

A. J. McDonagh (C), 2 Bloor St. E., Toronto, Ont.; Fred J. Conboy, 86 Bloor St. W., Toronto, Ont.; Arthur Ellis, 1301 Star Bldg., Toronto, Ont.; George Morgan, 2 Bloor St. E., Toronto, Ont.; T. Marsh, 2 College St., Toronto, Ont.; Charles Williams, 230 College St., Toronto, Ont.; G. V. Fisk, 818 Medical Arts Bldg., Toronto, Ont.; J. Kreutzer, 230 College St., Toronto, Ont.; Fred Husband. 12 Bloor St. East, Toronto, Ont.

**Resolution Adopted by The Board of Trustees of the Hudson County Dental Society, State of New Jersey**

WHEREAS: The President of the Dental Society of the State of New York, in his presidential address at the annual meeting of that society, in New York City, on May 9, 1939, advocated the practice of dentistry by a new sub-group of dentists having much lower standards of dental education than currently prevail for dentists, and

WHEREAS: This address received widespread publicity before it had been submitted to the membership to discuss, accept, or reject the principle involved, and

WHEREAS: The proposal implies a lowering of educational, cultural, and hence ethical standards of dentists, thus reversing the steady and consistent progress of a century in these directions, and

WHEREAS: The organized dental profession is on record as being anxious to co-operate with government and lay groups to solve the problem of a wider distribution of dental services to our population while at the same time maintaining present high standards of quality of service, and

WHEREAS: The problem of providing dentistry for the low income group of the population cannot be satisfactorily or wisely solved by emphasizing quantity rather than quality of service, and

WHEREAS: It is a violation of our democratic American creed to contemplate a system of health service that would make available to one economic group of the population a well qualified dental health service with the highest standards that exist in the world today, and make available to another group a service of much lower standards at the hands of inadequately trained technicians, and

WHEREAS: Dentistry, as well as every other branch of health service, varies in its value to the public in direct proportion to its quality, and

WHEREAS: The establishment of such a system would be as harmful to the public as would be the comparable suggestion of the creation of a class of "sub-physicians" to treat the simple cases of pneumonia, nephritis, and cardiac disturbances, now therefore be it

RESOLVED: That the Board of Trustees of the Hudson County Dental Society of the State of New Jersey, in executive session assembled, record its uncompromising opposition to this and any similar proposals that contemplate the lowering of the present high standards of dental education and practice, standards which have been so painfully and laboriously achieved over a span of a hundred years, and be it further

RESOLVED: That a committee be appointed to study the unsound plan and prepare a statement for the public to ensure that the public shall know precisely what the adoption of such a plan would mean to its future dental health, and be it further

RESOLVED: That copies of these resolutions be forwarded at once to the Greater New York Bureau of Dental Information, The American Dental Association, The American College of Dentists, all State Societies and the editors of all state and other important dental journals.

BERTRAND T. CONNELL, *Secretary.*

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**Research Fellowships and Grants-In-Aid of the American College of Dentists**

PURPOSE

The American College of Dentists offers *The William John Gies Research Fellowships* and *Grants-In-Aid* for the purpose of assisting, especially citizens of The United States of America or Canada, in the prosecution of problems in dental research.

The *Research Fellowships* and *Grants-In-Aid* are intended principally for those who are in the early stages of preparation for their life work and who express the intention of pursuing a career in one of the preclinical sciences fundamental to dentistry as teachers and investigators in dental schools or other institutions, or those who desire to approach problems in clinical dentistry through a discipline in one of these sciences.

The *Research Fellowships* and *Grants-In-Aid* are not intended primarily for those already well established professionally, but are designed to be of help particularly to young teachers and investigators with a dental degree, who are in need of small financial subsidies to study laboratory or clinical research problems.

A study of problems of socio-economic importance to the dental profession may be sup-

ported by either the assignment of *Research Fellowships* or by *Grants-In-Aid.*

RESEARCH FELLOWSHIPS—GRANTS-IN-AID

A *Research Fellowship,* based on a service period of ten months, shall carry with it a stipend of not more than $1000.00 for a single person nor more than $1200.00 for a married person.

The money appropriated for any *Grant-In-Aid* shall ordinarily not exceed $500.00.

The appropriation of monies for *Research Fellowships* and *Grants-In-Aid* shall be made by a sub-committee of the Committee on Dental Research appointed by the Chairman. This sub-committee, designated hereafter as the *Research Fellowship Board,* shall consist of four members in addition to the Chairman and Secretary of the Committee on Dental Research. Recommendations of the *Research Fellowships Board* shall be presented to the Board of Regents for consideration and approval. Four favourable votes are necessary for a recommendation to the Regents of an assignment of a *Research Fellowship* or a *Grant-In-Aid.*

USE OF THE MONIES APPROPRIATED

Monies are appropriated as *Grants-In-Aid* for the purpose of providing special materials and equipment peculiar to the project which are not otherwise available.

The entire stipend of the *Research Fellow* is designed primarily to enable the recipient to conduct research in a well equipped laboratory unless the *Research Fellowship Board* specifies that a certain part of it be expended to provide special materials or equipment.

Under exceptional conditions and at any time the *Research Fellowship Board* may recommend the allocation of a sum not to exceed $100.00 to a worthy individual engaged in research whose financial condition warrants it. The name of the recipient shall not be published and shall be known only to the Research Fellowship Board and to the Board of Regents.

DURATION OF APPOINTMENT

*Research Fellowships* and *Grants-In-Aid* shall be for one year only.

APPLICATION FOR A RESEARCH FELLOWSHIP OR A GRANT-IN-AID

1. In the application there must be included.
   (a) A brief but informative description of the proposed research, or the research in progress.
   (b) An additional explanation if the research in question has been previously supported from any other sources.
   (c) A statement of the source and the amount of any other aid being received for this specific project.
   (d) The reasons why the grant is needed and a list of proposed expenditures.

   Research Fellowship and Grant-In-Aid funds will be transferred to and disbursed by the financial comptroller of the institution to which the recipient of a *Research Fellowship* or *Grant-In-Aid* is attached.
2. The Research Fellowship Board will consider each application with care, but shall not be required to assign reasons for not recommending a *Research Fellowship* or *Grant-In-Aid.*
3. All applications must be sent to the Chairman of the Research Fellowship Board who will prepare copies for distribution to the other members of the Board.
4. Each application should be accompanied by a summary of training and previous experience in research together with a carefully prepared list of the applicant's publications. Reprints and manuscripts should be submitted whenever possible.
5. Each applicant for a *Grant-In-Aid* or a *Research Fellowship* shall secure an advisor, acceptable to the Research Fellowship Board and preferably attached to the institution at which the work is to be done. This advisor shall sign the application jointly with the applicant, attesting his belief in the accuracy of the statements in the application and shall agree, if a grant is made, to act as advisor to the applicant during the period of the grant.

OBLIGATIONS OF THE RECIPIENT OF A RESEARCH FELLOWSHIP OR GRANT-IN-AID

An applicant must, within thirty days of notification, signify in writing his acceptance of the terms of the grant. Appropriations once made and accepted shall be used solely for the purpose for which the *Research Fellowship* or *Grant-In-Aid* was given, unless

written permission to use them for a different purpose is obtained from the Research Fellowship Board through its Secretary.

It is understood that every recipient of a *Research Fellowship* or *Grant-In-Aid* agrees to account for all expenditures at the time of expiration of the Research Fellowship or Grant or at any time the Research Fellowship Board may require.

Any part of the funds not needed for the investigation for which the application was originally made shall be returned to the Research Fellowship Board at the expiration of the period for which they were granted.

It is expressly understood, furthermore, that all equipment or unused materials obtained by the recipient with money granted the recipient of a *Research Fellowship* or *Grant-In-Aid* shall be regarded as the property of the American College of Dentists. Such equipment or materials, or the value thereof, shall be returned *on demand* of the Secretary of the Research Fellowship Board at the expiration of the grant unless either the Fellowship or Grant is renewed, or, following a request from the holder of the equipment or materials, written permission from the Secretary is obtained to retain the materials or equipment temporarily or permanently.

Every recipient of a *Research Fellowship* or *Grant-In-Aid* shall send to the Secretary a brief account of the progress of the investigation aided by the monies allotted. This report shall be in the hands of the secretary of the Research Fellowship Board not later than one month prior to the expiration of the grant.

### Publication

The Committee on Dental Research is aware of the fact that not every investigation yields publishable results. On the other hand, if the results of any investigation are publishable it is understood that the recipient of any *Research Fellowship* or *Grant-In-Aid* may publish them without restrictions, in periodicals or journals approved by the American College of Dentists. "Without restrictions" is construed to mean that no attempt shall be made to patent the results or make gain from them individually or for any institution, excepting the American College of Dentists which may exercise the right of patent and only for the purpose of preventing exploitation of the public.

Part of a Grant-In-Aid may be used toward the expense of publication of research done under such grant, or an additional grant for such purpose may be made.

Any publication resulting from aid granted by the American College of Dentists, through its Committee on Dental Research, should carry a note to the effect that the research was aided by a "Grant from The William John Gies Fund of The American College of Dentists" or while a "William John Gies Research Fellow of the American College of Dentists."

Ten reprints of each publication resulting from aid given the author through either a *Research Fellowship* or a *Grant-In-Aid* shall be sent to the Chairman of the Research Fellowship Board of the American College of Dentists.

### Members of The Research Fellowship Board

*(Sub-Committee of the Committee on Dental Research of the American College of Dentists)*

Arno B. Luckhardt, M.S., Ph.D., M.D., LL.D., Sc.D. 5216 Greenwood Ave., Chicago, Ill.

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Alphonse M. Schwitalla, S. J., Dean, St. Louis University, School of Medicine, St. Louis, Mo.

Paul C. Kitchin, M.S., D.D.S. SECRETARY 474 East Dunedin Road, Columbus, O.

Albert L. Midgley, D.M.D., Sc.D. CHAIRMAN, 1108 Union Trust Bldg., Providence, R.I.

*All communications and requests for application blanks should be addressed to the chairman of the Committee on Dental Research of The American College of Dentists, no later than December first.*

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## Golden Gate Dental Congress

*Theme: "Past, Present and Future of Dentistry"*

San Francisco, host of the Pacific Coast in 1939, invites all members of organized dentistry to join with her in celebrating the

Golden Gate Dental Congress to be held here September 25, 26, 27, 1939.

Various nationally known men of exceptional ability will participate. These men are: Dr. L. E. Blauch, Washington, D.C.; Dr. Isaac Schour, University of Illinois; Dr. Phillip Jay, University of Michigan; Dr. John C. Brauer, University of Iowa; Dr. V. H. Kazanjian, Harvard University; Dr. Klem K. Bird, St. Paul, Minnesota; Dr. Walter H. Wright, University of Pittsburgh; and Dr. George C. Paffenberger, of the Bureau of Standards, in the Research Commission of the A.D.A.

These outstanding headliners will be augmented by a contingent of capable essayists and clinicians, from all points along the Pacific Coast.

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### Gesture of Independence

A dental laboratory group, under the pretext of securing legislation to abolish the dental laboratory that serves the public directly, caused to be prepared a bill to license dental laboratories and register dental technicians. The Chicago Dental Society discovered many provisions detrimental to the welfare of the public and of the profession, and expressed its official opposition to the proposed measure.

In spite of this unanimity of opposition by the dental profession, the laboratory act was introduced into the state legislature as Senate Bill 337, where it is now being considered by the Committee on License and Miscellany.

It is difficult to interpret this action of the laboratory group as anything else than a mark of contempt for the principles that organized dentistry has put forth in its opposition to the bill. It is the first step of the laboratory group to an independence that can lead directly to the dispensation of various dental services to the public without the intervention of the dentist. It is the final gesture in a long campaign in which some laboratory interests have derided the professional objectives and ethics of dentistry in favour of a high pressure method to "sell" dentistry at whatever cost to the public or to the profession.—*Condensed from Editorial in Bul. of Chi. D. Soc., May* 19, 1939.

### New York State Meeting Briefs

(*Excerpts from The N.Y. Jour. of D., June,* 1939.)

Dr. William Mather Lewis, President of Lafayette College, Easton, Pennsylvania, said:

"It is therefore, incumbent upon our colleges and universities to lay constantly greater stress upon outstanding intellectual achievement; to eliminate mediocrity and to see to it that brilliant students live up to their possibilities. Many of the better students go into the professions and as a result have a greater influence in the community than does the average citizen. It is not enough that the dentist be a good technician. As a leading member in the community he should have broad culture and a real sense of responsibility relative to the problems of government, local and national. The representative form of government cannot succeed where the citizenry is ignorant or neglectful of their duties."

Dr. Clyde H. Schuyler, President of the First District Dental Society, said: "At present we hear much of state and federal health programs. Recently our City gave civil service examinations for dentists. The compensation specified was $1,200 per year for full time. We know that that remuneration is not based upon the value to our city for professional services rendered. It is foisted upon the profession due to lack of fraternal spirit or professional unity.

"It is hard to understand how our city fathers evaluate the services of a dentist, who spends six years qualifying to render a health service to the children or unfortunate adults of our city at $1,200 per annum while they rate the value of a veterinary caring for our city's equine population at $3,000 or the services of a barber at $1,800."

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### Vitamins Found Important to Health of Mouth

New findings which show the importance of proper diet with plentiful vitamin rations for mouth health have just been reported by Drs. N. H. Topping, H. F. Fraser and T. H. Tomlinson, Jr., of the U.S. National Institute of Health.

Monkeys kept on diets lacking in vitamins, their report shows, developed every kind of mouth ailment from bleeding, receding gums and loosened teeth to trench mouth or Vin-

cent's infection and ulcers that went right through the cheeks from inside to outside.

The last condition, with the horrible sores on the cheeks, is like noma, a very fatal disease which used to be rampant in orphanages and other institutions. This is the first time noma has been produced in monkeys, the public health scientists point out in Public Health Reports, official publication of the U.S. Public Health Service.

Germs of the kind believed to cause trench mouth in humans flourish in the sore mouths of monkeys living on the vitamin-less diets. Some of these germs were inoculated into the gums and cheeks of other monkeys living on a good diet. None of these monkeys on the good diet developed any signs of inflammation of the gums. Whether this means that poor diet instead of germs is the cause of trench mouth in humans cannot be determined without further study.

The poor diets that induced mouth ailments in monkeys were lacking in either vitamin A, C, D, nicotinic acid or riboflavin.—*Science News Letter*—4/8/39—*A.D.A. Release.*

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**"Physicians' Service" Offers Health Plan**

California Physicians' Service was officially adopted yesterday as the name of the non-profit health insurance corporation sponsored by the California Medical Association but to operate independent of the Association.

The name was adopted yesterday at a meeting here of the council of the Association, authorized to launch the new medical project.

At the meeting seven trustees were selected to have active supervision of the service.

These trustees will meet soon and choose officers, either from among themselves or otherwise.

Headquarters of the California Physicians' Service will be in San Francisco.

About 50 non-medical persons, representing various groups, will also be invited to join the general administrative membership.

Articles of incorporation will be filed with the Secretary of State, possibly some time this week, but it will be approximately two months before the new organization will be in shape to write contracts, according to Dr. Kelly.

Among the general citizenry of the State, only employed groups will be accepted at first and individuals will have to wait until the risk has been lowered by the signing up of appreciable numbers of these groups.

The aim of the service is to provide medical and hospital care for low income groups for monthly fees on a sliding basis in accordance with individual income. The plan contemplates the care of indigents under agreement with city, county, state and federal authorities. —*San Francisco-Cal. Chron.*—1-15-39—*A.D.A. Release.*

## IN MEMORIAM

The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**Robert Edgar Laing,** of Dundas, Ontario, died on May 19 following a brief illness.

He was graduated from the Royal College of Dental Surgeons and since 1917 practised his profession in Dundas. He was keenly interested in all community matters, was an active member of St. Paul's United Church where he served as an elder and acted as leader of the Sunday School orchestra for many years. He was a member of The Valley Lodge, No. 100, A.F. & A.M., and Murton Lodge of Perfection, A. & A.S.R.

Dr. Laing is survived by his widow, two daughters and four brothers.

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**Charles G. Chapin,** of Brantford, Ontario, died suddenly September 25, 1938, from coronary thrombosis.

Dr. Chapin was graduated from the Royal College of Dental Surgeons in 1914.

## . . . SECTION FRANÇAISE . . .

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# *Le Congrès*

Les 8, 9, et 10 juin derniers, dans les salles de l'hôtel Mont-Royal, eut lieu le 5ème congrès de l'Association des chirurgiens-dentistes de langue française de l'Amérique du Nord.

Il nous serait bien impossible de dire ici les succès remportés par les organisateurs de ces remarquables assises. Les confrères, nombreux, venus de tous les coins du Canada et des Etats-Unis, pouvaient à toute heure du jour s'offrir un régal scientifique comme il ne peut s'en offrir qu'en de pareilles occasions. Quel que soit notre âge ou notre expérience il y a toujours tellement à apprendre qu'il est regrettable quelquefois de ne pouvoir être partout en même temps.

Le côté social ne fut pas plus négligé. Banquets, danses, thés, tout fut suivi dans un ordre qui fit honneur à ceux qui avaient la lourde tâche de ces organisations.

Nous offrons donc au président, le Dr E. Vinet et à tous ses collaborateurs, nos plus sincères félicitations.

A. Thibaudeau.

# DISCOURS D'OUVERTURE DU CONGRES

## *Dr E. Vinet, président du Vème congrès*

Messieurs les Doyens,

Monsieur le président du collège.

Au cours de l'année qui vient de s'écouler, nous avons cru qu'il était urgent d'assurer à notre Association, une sorte de vie nouvelle. Je ne saurais trop souligner de quels secours nous ont été les inestimables travaux de nos prédécesseurs. Leurs conseils éclairés et leur longue expérience nous furent d'un précieux appoint dans l'oeuvre que nous étions appelés à continuer. Nous avons pu ainsi, conscients des besoins de notre temps, élaborer une constitution nouvelle. Nous souhaitons qu'elle vous agréera. Elle répondra sans doute davantage aux besoins de notre régie interne.

Nous croyons avoir, dans l'humble mesure de nos capacités, rempli la tâche que comportaient nos fonctions. Unissant l'utile à l'agréable, nous aimons à croire que votre séjour ici sera doublement profitable. Nous souhaitons que le souvenir que vous en garderez ne soit en rien inférieur à votre attente.

De tous les points de l'Amérique, des Etats-Unis et de l'Acadie, de cette province, vous êtes venus en nombre imposant, avec un évident désir de collaboration et tous les sentiments d'une solidarité vraiment fraternelle.

Croyez bien, chers confrères, que votre empressement nous est particulièrement sensible, et j'ai grand plaisir, en mon nom comme au nom des organisateurs de ce congrès, à vous exprimer mes sentiments d'amitié les plus sincères et à vous souhaiter parmi nous, la plus cordiale, la plus chaleureuse bienvenue.

Il est souvent réservé aux présidents d'Association de lourdes responsabilités et des tâches ingrates. Ils ont, par contre, ce privilège indiscutable d'être exposés à tous les honneurs et à toutes les joies de leurs fonctions.

Cet honneur et cette joie, je les ressens d'une façon toute particulière et bien intense en cette circonstance solennelle, où il m'est donné, comme président de l'Association des Chirurgiens Dentistes de langue française, de vous souhaiter à tous la plus cordiale bienvenue!

Je suis heureux de saluer le Dr Janvier Coupal, un des nôtres à l'honneur comme membre du Comité exécutif de Montréal. Le Maire, retenu par ses obligations, a bien voulu déléguer, à sa place, le Dr Coupal. Ce choix nous honore beaucoup.

Quant à vous, messieurs les Doyens, monsieur le Président du Collège, je conçois que vous ayez considéré comme un devoir de votre charge et de votre profession d'assister à nos délibérations.

Nous avons tâché, dans l'élaboration de notre programme, de répondre à votre généreux empressement, par un souci tout spécial de progrès scientifique, tant pour le bien particulier de la profession que pour l'intérêt de nos séances et pour le bien général de la collectivité, à qui nous devons continuer d'offrir nos services et notre dévouement inlassable.

## *Dr E. Dubeau, doyen de la Faculté Dentaire de l'Université de Montréal*

Ce 5ème congrès des Dentistes de langue française de l'Amérique du Nord qui s'annonce comme devant être un succès aussi brillant que ceux qui l'ont précédé, coïncide avec la fin de la 35ème année de notre Faculté et la solution heureuse du

problème de l'Université de Montréal, par le Gouvernement Provincial, à qui nous devons exprimer notre vive reconnaissance.

Un mot à l'occasion de ces trois événements professionnels.

Comme Doyen, puisque c'est en cette qualité que j'ai été invité à vous parler ce matin, je désire, au nom de la Faculté, offrir nos félicitations et dire toute notre admiration à ceux qui ont organisé ces congrès et particulièrement aux jeunes membres de la profession qui sont en grande majorité dans le comité d'organisation. Je les ai vus à l'oeuvre, je sais le travail qu'ils ont fait, le dévouement qu'ils y ont apporté et le succès qu'ils remportent démontre que la profession apprécie leurs efforts accomplis dans l'intérêt de tous ses membres.

Quant à la Faculté, je devrais dire votre Faculté, car vous êtes presque tous ses anciens élèves, elle s'est efforcée de s'améliorer autant que chose était possible durant des années de misère et avec des ressources insuffisantes.

Elle n'est pas parfaite, loin de là, elle a encore beaucoup à accomplir pour atteindre la perfection, mais nous sommes heureux d'entendre les assesseurs du collège nous dire qu'ils constatent un progrès chaque année.

Pour ce qui est du règlement de la question universitaire, nous nous en réjouissons doublement comme canadiens français et comme professionnels. Comme canadiens français, parce que cela nous permettra d'avoir une Université qui pourra dans l'avenir prendre place à côté des autres grandes universités; comme professionnels, parce que cela permettra à notre Faculté, en septembre 1940, d'occuper des locaux plus spacieux, mieux aménagés et à côté de la Faculté de médecine, ce qui permettra une plus grande collaboration entre nos deux professions.

Nous espérons aussi y avoir des laboratoires de recherches où seront les bienvenus les membres de la profession dentaire, en dehors du corps professoral, qui désireront y faire des travaux.

En apprenant avec regret ces jours derniers, le décès du Dr Charles Mayo, du célèbre Institut Mayo de Rochester, je me suis rappelé qu'il y a 15 ans, il avait été le principal conférencier au congrès des Ecoles Dentaires Américaines et Canadiennes, à Omaha, Nébraska. Le Dr Mayo qui était un fervent apôtre de l'examen des dents, avait intitulé son travail "Importance du diagnostic buccal"; il avait terminé en disant: "Les prochaines dix années en médecine préventive appartiennent à la profession dentaire, est-ce qu'elle en saisira l'opportunité?"

Le Dr Cotton, médecin en chef de l'Hôpital de New Jersey, à quelque temps de là écrivait: "Si les médecins et les dentistes voyaient les résultats merveilleux obtenus dans notre hôpital par l'enlèvement des foyers d'infection d'origine dentaire ou buccale, ils comprendraient l'importance d'un diagnostic sérieux." Et il ajoute "Dans le passé il y a eu des erreurs de diagnostic graves, faites par des médecins, des dentistes qui ont eu un résultat fatal."

Le Dr Duke de New York disait que sur 1000 patients examinés à l'Hôpital Bellevue, souffrant de différentes maladies chroniques, 667 présentaient à différents degrés de l'infection buccale.

Le Dr Bell, de la Polyclinique de New York, a aussi écrit que: parmi les foyers d'infection, les dents occupent la première place, les amygdales la 2ème et le colon la 3ème. Mon but en citant ces spécialistes était de montrer l'importance de ce conseil du Dr Mayo, c'est-à-dire l'importance du diagnostic buccal. Durant le congrès vous aurez l'avantage d'entendre le Dr Donnelly de la "Oral Diagnostic Assn.", nous entretenir sur ce sujet. Nous sommes à organiser à Montréal une section de cette Association à la Faculté et nous comptons qu'un grand nombre de dentistes se joindront à nous.

L'an prochain, quand nous serons à la montagne, nous organiserons, si on nous en fournit les moyens, une clinique dentaire préventive pour les enfants, comme il en existe plusieurs aux Etats-Unis.

## *Dr Walsh, doyen de la Faculté Dentaire de l'Université McGill*

Il m'est particulièrement agréable de venir vous remercier de votre très aimable invitation, et je vous félicite de cette marque de sympathie.

A titre de représentant de l'Université McGill, et en mon nom personnel, je vous apporte les voeux du plus grand des succès.

N'oubliez pas que vous avez deux devoirs qui s'imposent pour maintenir la santé du peuple de notre belle Amérique du Nord.

D'abord: il vous faut de la dextérité, ou aptitude manuelle pour traiter les défectuosités, pour guérir et soulager la maladie qui est la plus répandue, et qui cause tant de dégâts parmi notre race: la carie dentaire.

Les conférenciers et cliniciens vous parleront, sans doute, pendant ces séances scientifiques de nouveaux développements, ils vous apprendront des méthodes pratiques de traitements, vous y verrez des matériaux modernes dont ils ont fait l'expérience avec grand succès.

Lorsque vous retournerez à vos bureaux ou à vos laboratoires, vous mettrez à profit les instructions reçues pour le plus grand bien de vos patients et de vous-mêmes. C'est ainsi que l'art dentaire s'améliore tant en prothèse qu'en dentisterie opératoire, et dans toutes les branches de notre belle et noble profession pour la santé du peuple qui en profitera certainement.

En second lieu—et sans doute ce qui est encore le plus important de vos devoirs, c'est la prévention de la carie dentaire et l'atrophie alvéolaire.

Profitez des données scientifiques de vos confrères pour rehausser davantage la profession à laquelle nous sommes si fiers d'appartenir.

Espérons que, inspirés par les discussions, les conférences et les rapports, nous nous mettions à étudier à nouveau les notions de la biochimie, la physiologie, le métabolisme et la médecine préventive en les ajoutant à notre expérience pratique pour perfectionner de plus en plus cette branche de l'art dentaire qu'on appelle la dentisterie préventive.

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Il nous a été impossible de nous procurer le texte des discours du Dr J. Coupal représentant de M. le Maire de Montréal, et du Dr McCabe représentant du Président du Bureau des Gouverneurs.

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# *Les prothèses immédiates*

par GEORGE A. BUCKLEY, Brooklyn, New York
Traduit de l'anglais par Gérard de Montigny, B.A., D.D.S., M.S.D.

Par prothèses immédiates, on veut dire des dentiers qui sont mis en place dans la bouche immédiatement après l'avulsion des dents ou plutôt à la fin de la séance d'extraction des dents.

### Le Pronostic des Protheses Immediates

Ces dentiers rendent des services appréciables au patient durant une période d'un à trois mois, mais cela ne signifie pas que ces dentiers ont perdu toute leur stabilité, leur rétention ou leur utilité à la fin de ce temps; nous prétendons qu'ils doivent être réajustés au cours ou à la fin de ces trois mois, pour prévenir la destruction alvéolaire de la crête antérieure et l'hypertrophie cellulaire du tissu de cette région. Ainsi, nous nous attendons à procurer au patient une prothèse confortable à la fin d'une semaine de traitements post-opératoires et de réajustements.

### Contre-Indications aux Protheses Immediates

Les patients qui souffrent d'angine de poitrine, de jaunisse, de diabète, les hémophiles et tous ceux dont l'état physique s'oppose aux interventions chirurgicales (à moins qu'on les y ait préparés à l'avance) ne sont pas de bons sujets pour la mise en place de prothèses immédiatement après l'extraction des dents. Les personnes âgées débiles ou d'une nervosité excessive sont ordinairement réfractaires à ce genre de restaurations.

### Avantages des Dentiers Immediats

1) Le côté psychologique du patient est ménagé. Le patient a confiance en lui-même et s'habitue plus rapidement aux dents artificielles, s'il n't pas l'inconvénient de rester édenté plus ou moins longtemps.

2) Les contours de la figure n'ont pas le temps de se modifier. L'insertion de dentiers immédiatement après l'extraction prévient l'atrophie diffuse des muscles faciaux.

3) Le dentier joue le rôle de support et favorise la guérison rapide des gencives.

4) La dimension verticale du visage est rétablie plus facilement grâce aux prothèses immédiates.

5) La reproduction des dents naturelles dans leur position verticale et de rotation est facilement réalisable grâce aux prothèses immédiates. Je dis, si on le désire, parce qu'assez souvent, les dents naturelles sont trop penchées et ne peuvent être reproduites intégralement dans leur difformité. Même alors, ces dents nous aident à trouver la position de l'orbiculaire des lèvres et de l'attachement des autres muscles; en autres mots, l'expression du visage. Dans ces cas, il nous est possible d'améliorer la position des dents.

### Preparation de la Bouche Pour les Dentiers Immediats

1) Toutes les dents postérieures sont d'abord extraites; sans être d'une absolue nécessité, l'extraction de ces dents est préférable, parce qu'elle nous procure une base stable et bien guérie. Les dents postérieures, qui sont sorties de leurs alvéoles et qui amènent avec elles l'os alvéolaire, doivent être enlevées et la crête alvéolaire qui les supporte doit être réduite à un volume normal.

2) Toutes les surfaces rétentives doivent être éliminées et bien guéries avant la prise d'empreinte.

### Facon de Prendre les Empreintes

1) On peut employer le stent pour empreinte sectionnée;
2) Le stent et le plâtre;
3) Le stent et une substance hydro-colloidale;
4) Une substance hydro-colloidale ordinaire.

Nous nous servons personnellement du stent comme base et d'une pâte d'oxyde de zinc-eugénol comme adjuvant, en employant la technique de prise d'empreinte, la bouche fermée.

### Empreinte Preliminaire

A l'aide du stent on prend une empreinte de la partie édentée de la bouche et des surfaces incisives et linguales des dents restantes. L'empreinte est retirée et les bords sont taillés à une hauteur et une épaisseur désirées, pour donner l'espace nécessaire aux attachements musculaires. L'empreinte est ensuite retirée du porte-empreinte. L'empreinte est replacée dans la bouche et on ajuste un morceau de stent amolli sur la surface labiale des dents. Cette partie antérieure de l'empreinte est à son tour ajustée pour donner suffisamment de place au frein labial et aux attachements de la lèvre.

Les parties de l'empreinte qui recouvrent les dents sont réduites pour donner une plus grande épaisseur à la pâte dont on se servira à la fin.

Nous nous rendons compte de l'épaisseur de la suture médiane du palais et nous enlevons une partie correspondante de stent dans notre empreinte. On s'y prend de la même façon pour une empreinte du bas, si on a à faire une prothèse immédiate inférieure.

La partie postérieure de l'empreinte de stent est diminuée et sur cette région, on place un léger boudin de cire amollie; les empreintes du haut et du bas sont mises en place dans la bouche et on demande au patient de mordre en occlusion centrale.

Ces empreintes préliminaires sont retirées de la bouche et nous sommes maintenant prêts pour l'empreinte finale.

### Empreinte Definitive

La substance à empreinte à base d'oxyde de zinc et d'eugénol est renfermée dans 2 tubes; l'un contient l'accélérateur et l'autre la substance basale. On place sur la tablette de verre la quantité prescrite d'accélérateur et de substance basale et on spatule durant une minute. La pâte est ensuite étendue dans l'empreinte en stent. L'empreinte est mise en bouche et le patient doit mordre fortement en occlusion centrale; une demi-minute plus tard, ce patient doit écarter les lèvres, comme dans le rire forcé et tirer les lèvres en avant comme pour siffler. Ces mouvements musculaires modifient les bords de l'empreinte à une hauteur normale. Le surplus de substance après 3 minutes, est enlevé sur les bords labial et incisif des dents, l'empreinte est ensuite retirée de la bouche.

On enlève tout excès et l'empreinte est remise en place pour la compléter du côté labial des dents avec le morceau labial de stent qui servira de support à la pâte d'oxyde de zinc et d'eugénol.

Quand après 3 autres minutes l'empreinte est complétée, les deux parties sont mises en place et jointes ensemble.

L'impression finale est dégagée pour allouer l'espace à la suture médiane du palais.

La même marche doit être suivie pour le dentier du bas.

Les empreintes sont emboîtées et coulées. Il n'est pas nécessaire de les enduire de séparateur, les empreintes sont enlevées du modèle et les modèles sont dégrossis.

### Preparation des Plaques-Bases

Des plaques-bases de shellac sont adaptées aux modèles en pierre et sont doublées du côté des tissus pour une couche de stent. Ce renfort prévient la déformation de la plaque, source d'erreurs dans l'enregistrement de l'articulation sur l'articulateur et permet une meilleure adaption de la base. On ajoute des boudins de cire à cette plaque-base et nous sommes maintenant prêts à prendre l'articulation centrale.

### Enregistrement Central et Arc Facial

Une coche est faite dans le boudin de cire du haut et celui-ci est placé en bouche. On façonne le boudin de cire du bas, et on le place en bouche. La mâchoire est fermée en retro-pulsion et on enregistre l'articulation centrale. Les plaques sont retirées de la bouche; la fourchette de l'arc facial est enfoncée dans le boudin de cire supérieur; après l'insertion nouvelle de la plaque du haut dans la bouche, on obtient l'enregistrement de l'occlusion normale. La plaque-base supérieure est retirée de nouveau de la bouche et l'enregistrement de l'arc facial est mis de côté.

### Endiguement et Bord Posterieur du Dentier Superieur

Le bord postérieur de notre plaque-base du haut est marqué avec un crayon indélible et placée dans la bouche. Nous palpons le palais dur pour localiser d'échancrure ptérigo-maxillaire, située de chaque côté en arrière de la tubérosité. Cette échancrure ou cette épaisseur de tissu mou est la limite du bord postérieur de notre

dentier de chaque côté. Nous trouvons ensuite les "canaux palatins postérieurs" et leurs conduits accessoires qui sont deux petites ouvertures sur la ligne médiane près de l'union du palais dur et du palais mou. Ces *points* anatomiques nous aident à déterminer l'étendue de notre bord postérieur. Quand nous avons déterminé notre bord postérieur dans la bouche, nous coupons notre plaque-base en conséquence.

La plaque-base est ensuite placée sur le modèle de pierre et en se servant du bord postérieur comme limite, nous faisons un sillon dans le modèle. La profondeur de ce sillon sera déterminée en palpant la quantité de tissu mou dans la bouche à l'aide d'un brunissoir en forme de T. La plaque-base est adaptée à ce sillon et l'endiguement est terminé.

## Le Choix des Couleurs et la Notation des Caracteristiques Individuelles

On fait un dessin du nombre des dents naturelles présentes dans la bouche et la couleur de chacune des dents est notée, si nous voulons reproduire en tous points les dents présentes.

Nous notons aussi toute tache ou tout détail susceptibles d'être reproduits.

## Le Montage des Modeles et L'Enregistrement de la Propulsion

La plaque-base supérieure est replacée à l'arc facial, le modèle est attaché à la plaque-base et scellé en place. Le modèle du haut est ensuite placé sur l'articulateur à l'aide de l'arc facial et la plaque du bas est cirée à la plaque du haut en articulation centrale d'après les données recueillies plus tôt. Le modèle du bas est ensuite fixé sur l'articulateur.

Après avoir fait une entaille au boudin de cire supérieur, on place deux épaisseurs de cire molle sur le boudin du bas et les deux plaques sont mises en bouche. Le patient est invité à avancer sa mâchoire en avant. Cette phase peut être répétée jusqu'à ce qu'un enregistrement parfait de la propulsion soit obtenu; cet enregistrement est rapporté sur l'articulateur et inscrit sur l'appareil.

## Reproduction de la Position de Chaque Dent

On coupe tour à tour les dents du modèle pour conserver leur largeur respective et pour faciliter leur mise dans la même position. Nous faisons ensuite dans le modèle, dans la partie labiale de l'alvéole, un trou profond de 2 ou 3 mm. Une dent artificielle ayant une forme aussi identique que possible à la forme de la dent naturelle est ajustée dans la position de la dent naturelle.

Cette dent est placée dans l'alvéole du modèle, à une profondeur de 2 ou 3 mm. et maintenue en place lingualement au moyen de cire collante.

Ce montage des dents une à une est fait alternativement jusqu'à ce que toutes les dents soient placées. Ces dents sont ensuite enlevées pour en polir les surfaces qui ont été meulées, pour les tacher, ou leur donner leur luisant en les faisant cuire au four, au besoin. Elles sont ensuite remises en place et balancées sur l'articulateur.

## Enregistrement des Dents Superieures a L'Aide du Platre

Avant d'aller plus loin, le modèle du bas est enlevé de l'articulateur et on fixe une nouvelle plaquette à la partie inférieure de la machine. Sur cette nouvelle plaquette, on coule du plâtre et on enfonce dans ce plâtre encore plastique les dents du haut pour enregistrer sur l'articulateur la position des dents supérieures. Cet enregistrement rend de grands services quand il faut remonter les dents supérieures dans leur relation originale enregistrée par l'arc facial.

### Degrossissage du Modele et Preparation de la Matrice de Celluloide

Quand le modèle est placé dans le moufle la crête antérieure est taillée au couteau pour éliminer toutes les pointes rugueuses et les surfaces rétentives possibles en reproduisant aussi fidèlement que faire se peut la crête alvéolaire édentée. Quand ce travail est complété, une couche de cire (jauge 20) est étendue sur le modèle. L'autre moitié du moufle est ajustée à la première et remplie de plâtre qui se répand également sur la cire et forme un espace d'une épaisseur suffisante pour l'adaptation de la matrice de celluloïde.

Les deux moitiés du moufle sont séparées et la cire est enlevée. Un carré de celluloïde d'épaisseur égale à la cire est chauffé et adapté à la main sur le modèle. Le moufle est refermé légèrement, plongé dans l'eau bouillante et mis sous presse.

Avant d'ouvrir le moufle de nouveau, il doit être refroidi et la matrice de celluloïde est enlevée. Si c'est nécessaire, la matrice doit être débarrassée de tout excès et réajustée au modèle.

### Extraction des Dents et Insertion des Protheses

Il faut prendre garde de ne pas soulever trop haut le lambeau labial, car cette négligence est susceptible d'occasionner une enflure oedémateuse. Les dents peuvent être extraites sous anesthésie locale ou générale.

Quand les dents sont enlevées et que toutes les pointes osseuses et les surfaces rétentives ont été aplanies, on se sert de la matrice en celluloïde pour contrôler les détails de la préparation de nos crêtes. Quand cette opération est faite, les lambeaux sont suturés et les dentiers sont mis en place. L'occlusion centrale et les bords rétentifs du dentier doivent être vérifiés; on doit s'assurer du jeu libre des insertions musculaires.

### Conseils a Donner au Patient

Le patient doit garder constamment son dentier dans sa bouche jusqu'à sa visite du lendemain chez son dentiste. On doit prescrire des sédatifs pour supprimer les douleurs post-opératoires. Des pansements glacés doivent être gardés en place durant toute la journée de l'intervention et aussi le lendemain. Négliger d'appliquer du froid produit souvent une enflure du visage; les pansements glacés aideront à combattre ces fluxions.

Pour les trois premiers jours, le patient sera soumis à une diète liquide—après ce laps de temps, il pourra manger du solide.

Il n'est pas rare de voir des patients, qui sont susceptibles aux ecchymoses, se présenter à nos cabinets, le lendemain, avec des "yeux au beurre noir"; cet épanchement sanguin est causé par le traumatisme chirurgical et le relèvement excessif du lambeau labial.

Cette période de douleur et d'inconvénients ne dure pas plus que 4 jours; la plupart du temps, aucune ecchymose est à craindre et très peu de fluxion suit l'extraction des dents; la douleur se supporte assez bien.

### Traitements Post-Operatoires

Le lendemain de l'insertion des dentiers, le patient revient à notre cabinet et nous faisons les corrections nécessaires. La bouche est lavée avec une solution de Dakin et les endroits irrités sont badigeonnés de metaphen, de teinture d'aconit ou d'iode.

Le patient est renvoyé jusqu'au lendemain, où nous répétons le même traitement. Au bout de 4 jours, le patient se sent très bien et commence à mastiquer des aliments plus durs.

### Remontage et Ajustement des Dents

Les dents ne sont pas remontées ou meulées avant 5 ou 7 jours suivant l'insertion des prothèses. Le dentier du haut est replacé sur l'articulateur au moyen de l'enregistrement en plâtre. Le dentier du bas est replacé au moyen d'une articulation en cire. Le montage des dents est vérifié dans tous ses détails, et s'il est trouvé conforme aux données de l'articulation, les dents sont meulées en articulation centrale et les dentiers sont arrangés de façon à s'adapter à la propulsion et aux mouvements de latéralité en adaptant l'inclinaison des cuspes des dents à celle du condyle.

### Conclusions

Il faut noter que les prothèses immédiates, comme toute autre institution humaine, n'offre pas que des avantages. Parmi les inconvénients il y a le surcroît de travail et les déboursés additionnels imposés par la construction de ces pièces. Il faut que le patient soit bien convaincu de ces exigences; autrement le dentiste travaillera à perte. Les patients qui désirent et qui souvent sont forcés d'avoir recours à ce service de luxe. doivent être prêts à débourser la valeur de ces pièces.

Il faut de plus convaincre le patient avant de commencer le travail, qu'à la suite de la première insertion du dentier dans sa bouche, il y a une période de douleur et de malaise; parfais le patient est défiguré durant quelques jours.

Quelquefois les patients oublient qu'ils passeraient par les mêmes inconvénients et qu'ils éprouveraient la même douleur, en faisant extraire leurs dents, corriger les défauts de leurs crêtes et fabriquer leurs dentiers de la façon ordinaire.

Si nous faisons toutes ces considérations avant d'entreprendre la fabrication de prothèses immédiates, nos patients n'attendront pas trop de ce genre d'ouvrage et ne seront pas effrayés de cette procédure; ils seront des patients heureux et satisfaits.

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# *Suggestions pratiques*

TIGES DE COULEE: Les tiges de coulée d'incrustation ne doivent jamais être en fer, car dans le revêtement elles s'oxydent et laissent sur les parois du puits de coulée de l'oxyde de fer qui peut altérer l'alliage d'or.

R. Blanco, Tribuna Odontologica, Buenos-Aires.

POUR AIDER L'EVOLUTION DES DENTS DE SAGESSE: Lorsqu'une troisième molaire évolue en position vicieuse, bien nettoyer l'espace interdentaire avec une solution de nitrate d'argent à 10%, bien sécher et fouler le mieux possible des petits morceaux de gutta dure (plaque-base de white).

Cette gutta est très bien supportée pendant plusieurs mois et facilite l'évolution en position normale.

On évitera ainsi beaucoup d'extractions et d'accidents.

H. S. Hargreaves, *Jour. Am. Dent. Club of Paris*

POUR L'AJUSTAGE PARFAIT D'UN INLAY DU BORD GINGIVAL: Avant de commencer un inlay dans une cavité composée, garnir le bord gingival d'un morceau de feuille d'or à aurifier. Celle-ci se trouve écrasée lors du cimentage et l'excès en est facilement bruni, tout en assurant une adaptation parfaits.

JERRY C. ADAMS, *J.A.D.A., avril 1938.*

INCRUSTATIONS AU TIERS GINGIVAL DES DENTS: Une empreinte parfaite de ces cavités est difficile à obtenir à cause de leur petit volume et à cause de l'air qui est emmagasiné, sous la substance plastique qui s'oppose à son évacuation. Si l'air est évacué, les bords périphériques de l'empreinte ne seront pas reproduits fidèlement et si l'air est emprisonné sous le stent, le fond de la cavité n'est pas reproduit dans toute son intégrité.

Enfoncez d'abord au fond de la cavité un morceau de stent plus petit que la cavité et foulez-le bien. Ensuite appliquez à une plaque de métal mou, un peu plus grande que l'ouverture de la cavité du stent amolli, chauffez et appuyez fermement sur la cavité. Il n'y a pas d'air emmagasiné, la seconde application de stent enregistre les bords de la cavité et colle à la première insertion.

C. W. SOULES, TORONTO—ORAL HEALTH—*août 1938.*
*Gérard de Montigny.*

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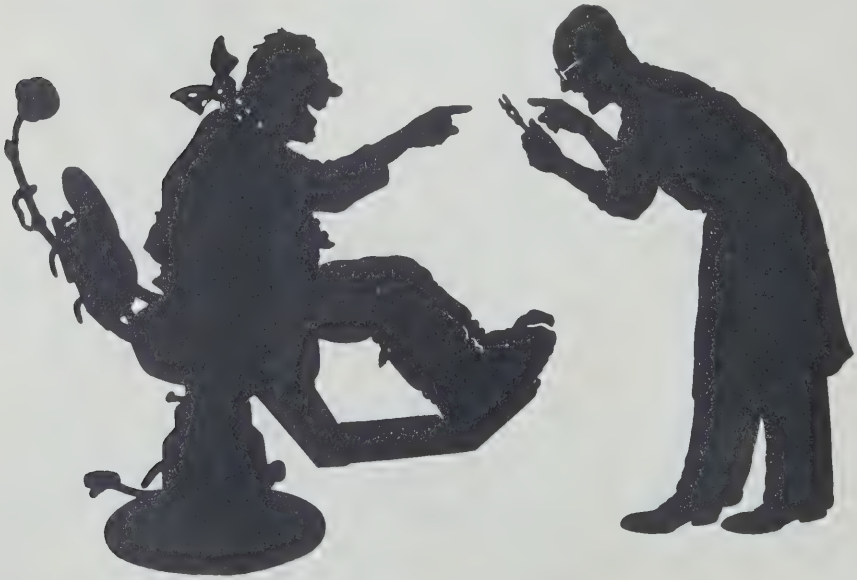
## *Histoire sans paroles (Lange)*



6ème scène

The Noble Memorial to Cecil Rhodes at Rondebosch, Cape Province, South Africa. Year by year, Africa is gaining in favour with discriminating world travellers.

*—Photo courtesy American Express Travel Service, and Saturday Night.*

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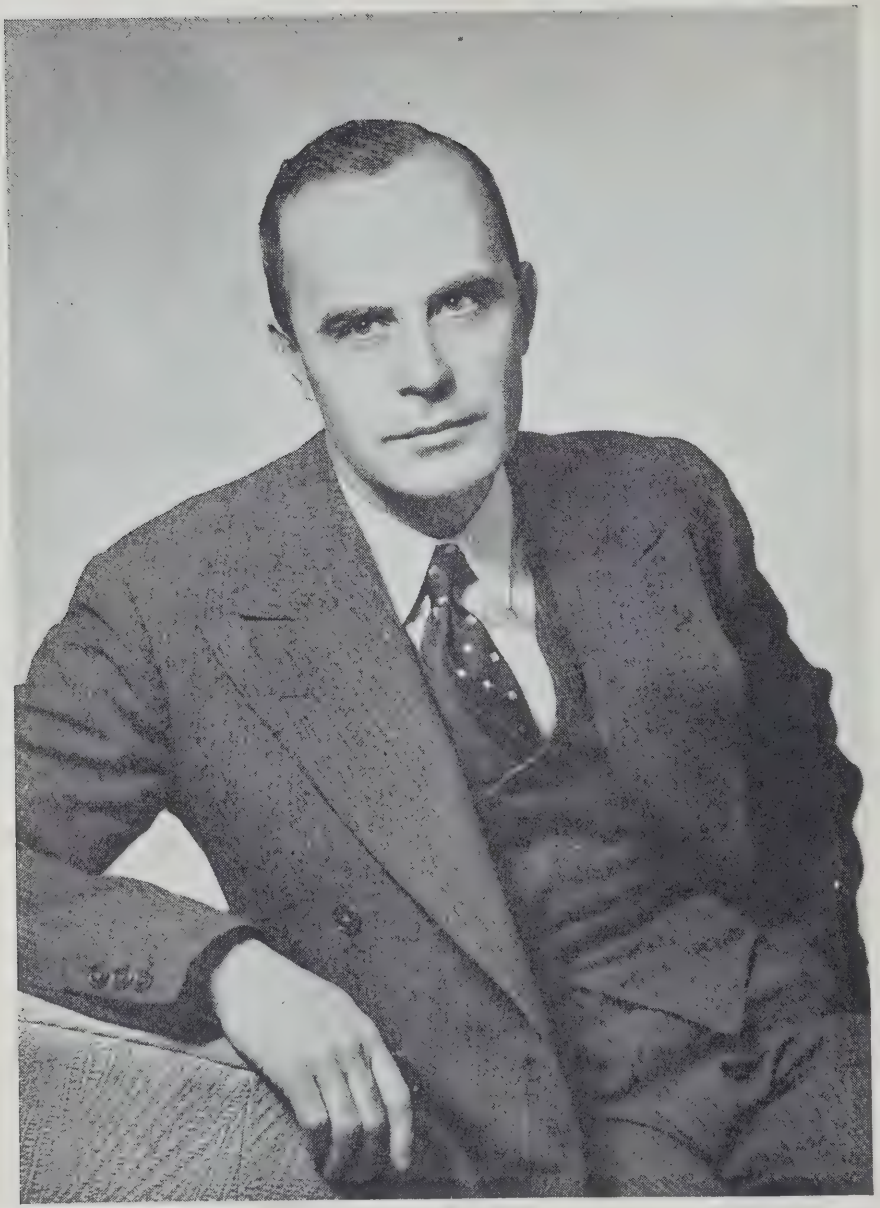
*The world may have moved onward—whether forward or not is another matter; even in our own generation man has altered some of his possessions out of all recognition; but nothing has been altered within the memory of man among the birds, beasts and flowers of the field.*

*It is an impressive thought, one that gives us a sense of perspective, of proportion, that Shakespeare found his delight in Nature as we find Nature today. . . .*

*Our link with the past is immediate and intimate. Ever new, ever old, are most things beneath the sky. The wonderful sunset that spread in front of us a night or two ago brought tears to the eyes of Marcus Aurelius centuries before the birth of Christ.*

*But John Keats uttered the final word about this great emotional experience in which Time is unheeded, meaningless, when he listened to the nightingale and called it the selfsame bird that broke the heart of exiled Ruth as she stood in the corn and longed for home.—Liverpool Post, per Medley.*



CAMPBELL MORRIS, D.D.S.
Montreal, Quebec.
President of Montreal Dental Club.

*Dr. Morris will preside at the Fifteenth Annual Fall Clinic to be held in Montreal, September 27-29.*

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# The Use of the Surgical Mask in Dentistry

by ROY G. ELLIS, B.D.S. (Adel.), D.D.S., B.Sc. (Dent.), Toronto, Ontario

THE application of the surgeon's mask to the dental field is not new. It will be found to be in routine use in the offices of some exodontists.

It must be admitted that advantages and disadvantages for recommendation of its use could be balanced one against the other and perhaps we would come to the conclusion, after doing so, that there are occasions when the mask is to be advocated definitely. As a routine practice, its application is questionable as far as the general practitioner is concerned.

It must be considered as a protection both to the operator and the patient when it is worn. It affords protection not only against direct transmission of bacteria-loaded droplets during coughing and speaking, but against mouth odours—as in the case of halitosis. From the latter standpoint its use was advocated recently by a layman.

The protection afforded against droplets may be emphasized in specific instances, such as in the case of the dentist or patient with a cold and during surgical procedures. The effectiveness of the mask under such circumstances, while not perfect, is strikingly shown in the following tests carried out in the Pathology Laboratory of the Faculty of Dentistry, University of Toronto.

## Procedure

Two masks of different mesh, as seen in Figure 1, were used. The mesh of mask A. will be seen to be more open than in the case of mask B., but both were made of a double thickness of cotton gauze. Both were large enough to cover adequately the mouth and nose under all conditions.

A series of plain agar plates and a culture of bacillus prodigiosis in bouillon medium were prepared. The culture of bacillus prodigiosis was taken into the mouth and held for a minute, during which time it was swilled about the teeth. During each stage, in the series of tests carried out, the same procedure was followed. An agar plate was exposed to droplet contamination by coughing directly at the plate about 10″ above it. All the plates shown in the subsequent figures are seen 48 hours after incubation.

Figure 2 (left) is an agar plate after being exposed to coughing before the mouth was rinsed and therefore before the saliva was contaminated with the culture of bacillus prodigiosis. No mask was used in this instance. It will be seen that there is no colony growing on the plate.

Figure 2 (right) is a similar agar plate to that mentioned above but exposed to

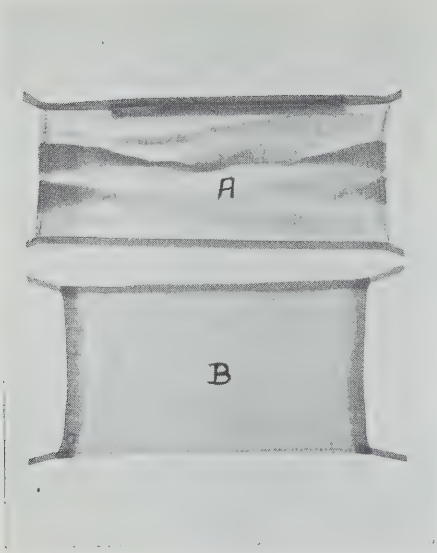


Figure 1.

coughing after the mouth had been contaminated with the culture of bacillus prodigiosis, and also before the application of a mask. There are approximately 600 separate colonies of bacillus prodigiosis on this plate.

Immediately these tests were completed, mask B. (close-meshed mask) was adapted quickly over the mouth and nose and another plate exposed to coughing. This time as seen in Figure 3 (upper left) there were 2 colonies on the plate. Mask B. was removed and mask A. (open-meshed mask) was then adapted and an agar plate treated as previously. There were 7 colonies on this plate as seen in Figure 3 (upper right). When mask A. was lined with a flawless sheet of thin cellophane and adapted to the face and an agar plate treated as above, no colonies were found to be present as is seen in Figure 3 (lower). This was to be expected. The time spent, up to this point, on the tests was but a matter of a few minutes, and therefore, the mouth was considered to be contaminated to the same degree throughout the tests. This assumption was roughly proven by the fact that when a swab was taken from the mouth, thousands of colonies grew on the plate as indicated by the streaks of confluent growth in Figure 4 (left).

The right illustration in Figure 4

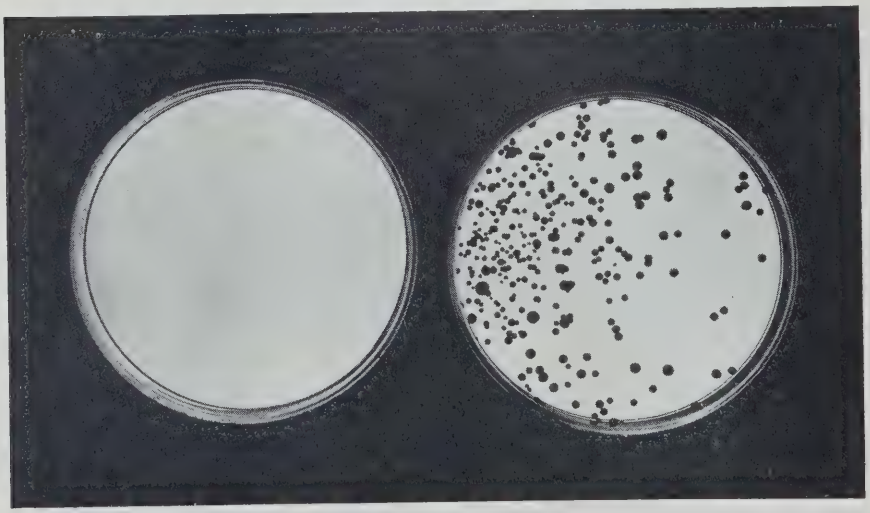

Figure 2.

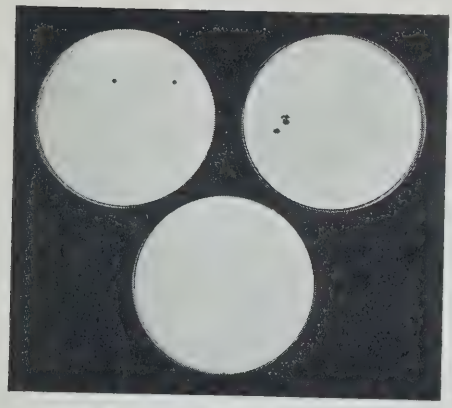

Figure 3.

shows the result of a swab taken from the mouth a few minutes after a mouth wash had been used. The discrete colonies indicate a lower incidence of bacteria probably explained by the dilution effected by the mouth wash.

These tests were repeated under comparable conditions a month later and results strikingly similar to those outlined above, were obtained. It is realized, however, that for these results to be scientifically conclusive the tests should be repeated on many occasions and the results averaged.

The conclusions drawn from these simple tests are: firstly, that there is a great reduction in the number of bacteria dispersed from the mouth during coughing (and we assume during talking) when the mask is used; secondly, that the open-mesh mask is less effective than the closely woven mask.

The writer wishes to acknowledge the assistance given by the members of the staff of the Department of Pathology of the Faculty of Dentistry, University of Toronto, in arranging for and carrying out the tests.

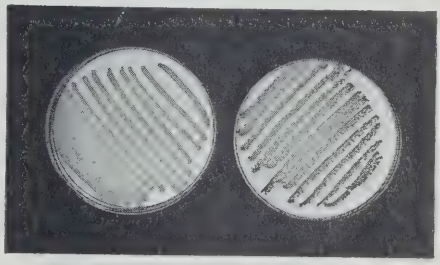

Figure 4.

# *Well, What Have We Done?*

## *—A Summary of 1938*

by THE CANADIAN DENTAL HYGIENE COUNCIL

AT the beginning of every new year we are impelled to look back over the year that has just gone, take stock of what has transpired, and say to ourselves, "Well, what have we done?" If the results of our efforts have been really worth while, our retrospection is pleasant.

The task of reviewing the work of the Canadian Dental Hygiene Council for 1938 brings us real happiness, for this year has broken all records for actual progress in Public Dental Health in almost every province of Canada, and the Canadian Dental Hygiene Council has had a very active part in bringing this about.

Success in the work of the Council depends largely on the response of the general public to our dental health educational program. This response must be active—not passive, a change in the attitude and health habits of the people. We must arouse in them the urge for better mouth health, and the Council has

proof, during this past year, that this has been accomplished.

Another indication of our success would be that the Departments of Health of the Provincial Governments had either inaugurated new programs or extended their efforts in public dental health as a part of their regular health programs. In our review of 1938 we are very happy to record that this has actually occurred in six of the nine provinces of the Dominion.

### Nova Scotia Campaign

The larger part of our program for the year was an intensive five months' Mouth Health educational campaign throughout the province of Nova Scotia. This was conducted in conjunction with the Provincial Department of Health and the Nova Scotia Dental Society. Twenty-two towns and cities in Nova Scotia were covered, which made it possible to meet with a large percentage of the adults and all the school children of these communities. To them we brought the latest scientific findings in preventive dentistry, and endeavoured to stimulate them to build into their daily lives this new knowledge.

The way this was tied up with the Provincial Department of Health and the Provincial Dental Society is best exemplified through the financial set-up for the campaign. The entire cost was divided into three parts, the Department of Health of the Nova Scotia Government making a grant of $1,200, the Canadian Dental Hygiene Council, $1,200, and the Nova Scotia Dental Society, $600.

The outcome of this campaign is that the dental health program which we have inaugurated will be continued, and to that end the Provincial Government has committed itself to a definite plan, working with the co-operation of the Nova Scotia Dental Society. A special committee has been formed jointly of members of the Health Department and the Dental Society, which will endeavour to extend the educational work which we started during this past year, and also will send a number of travelling dental clinics to remote and sparsely settled districts where dental services are not now available. The Provincial Government will provide the full time services of a Public Health nurse to go into the various districts, tabulate the needs and assist in the general clinical work. In the early spring the Nova Scotia Government Department of Health will provide a mobile dental clinic which will visit from place to place to take care of the dental needs of all children twelve years of age and under in these communities. Some financial responsibility for this operative treatment will be assumed by the community. This is carrying out one of the main objectives of the Canadian Dental Hygiene Council, namely, to urge and assist the communities to take financial responsibility for providing necessary dental treatment for all children — in towns and cities, through school clinics municipally financed; and in rural districts, through travelling dental clinics financially assisted by the Provincial Government.

### Prince Edward Island

One of our main objectives has always been that through our educational efforts, Provincial Governments and Departments could be induced to provide these essential services. We are happy to record that as a result of several years' work in Prince Edward Island, the Government has assumed full financial responsibility and has only called on us for advice and organization assistance. The rural dental clinics during the past year have been doubled. There is a need of these clinics in Prince Edward Island, a prov-

ince which is made up very largely of rural communities.

### Quebec

In Quebec, our campaign of a few years ago has definitely borne fruit, and tangible evidence of this is the formation during the past year of a new organization, La Société d'Hygiene Dentaire de la Province de Quebec, made up of public-spirited lay citizens and dentists, to carry on a comprehensive program of public dental health education, and assist communities, towns and cities in organizing dental clinics.

The Provincial Government Department of Health has made a grant of $5,000 to this newly formed group, and subscriptions from philanthropic citizens and organizations are being solicited. La Société has generously acknowledged the assistance our Council has given to its formation, and has asked for our continued help.

While the work in the Province of Quebec has been somewhat slower in getting under way than in some of the other provinces, the past history of general public health activities in this Province has proven that there are no half measures there, and we are sure that a very complete and comprehensive program will be worked out.

### Ontario

In Ontario, where the Council has been carrying on an educational campaign in conjunction with the Provincial Departments of Health and Education and the Ontario Dental Association, real tangible evidence of progress has been accumulated. Interest aroused among the school inspectors has enabled us to greatly extend our educational work through rural communities. In fact, seventy-three inspectors, on the authority of the Departments of Education and Health, have become, for the time being, dental health workers. Special literature has been distributed by them to the teachers and the school pupils, and charts, which entitle the child to a free mouth examination from his own dentist, have been given to over 105,000 school children in the country districts. The co-operation received from the Departments of Education and Health in the Province of Ontario in this particular work has been most gratifying to both the Canadian Dental Hygiene Council and the dentists throughout the Province of Ontario.

### Manitoba

In Manitoba, during the past year, we can record definite evidence of increased interest. The Provincial Department of Health of the Manitoba Government has increased its grant 60 per cent; thus substantially increasing the amount spent over former years for public dental health work throughout that province.

### Saskatchewan

The Province of Saskatchewan is the banner province this year for co-operation in the main objectives of the Canadian Dental Hygiene Council. Through the educational program carried on by the staff of the Provincial Department of Health, a greatly increased interest in Public Health has been aroused. This is real active interest—the number of communities requesting both clinics and public dental health educational work has increased very rapidly — more rapidly than they can be taken care of. Last year over 7,000 children, 12 years of age and under, in the drought section received actual treatment, and many communities have found the money to finance, almost entirely, many of these clinics. In others, considerable assistance has had to be given, but to those of us who are familiar with the drought section in this Province,

what has been accomplished is amazing. I am convinced that if the Canadian Dental Hygiene Council had nothing further to report than this outstanding public dental health program carried out during this past year by the Provincial Department of Health and the committees from the Provincial Dental Association, this alone would have fully justified the existence of our Council.

Our financial contribution to this program is very small, and because of that we must pay tribute to this splendid work which has been carried out largely under the direction of Miss Ruby Simpson, Director of the Division of Public Health Nursing of the Saskatchewan Government. During this past year, her entire staff have become dental health workers for the greater proportion of their time. Their reward will be the realization of better health which they have brought to their communities.

### Alberta

In Alberta the Minister of Health has, for the past two or three years, been endeavouring to find the necessary funds to make a grant to finance a Dental Health program in his province. We are glad to report that a letter has been received during the last few weeks from Dr. Bow, Deputy Minister of Health, advising us that, through his Minister, a grant has been made of $1,000.00, on condition that the Canadian Dental Hygiene Council and the Alberta Dental Society also make smaller cash contributions. Both of these latter organizations have since made these grants, and the financial support is now available for us to make a new start in Alberta. I am sure results there will inspire the Government to greatly extend their support. Thank you, Alberta, we are very much encouraged.

### British Columbia

Three years ago, British Columbia took over full responsibility for Public Dental Health programs in that province, asking only organization assistance and advice from the Canadian Dental Hygiene Council. The size of the grant for this work is an indication of the extent of it—$20,000 being appropriated for this purpose in 1937.

Another gratifying thing during 1938 was the slight increase in the financial grant from the Federal Department of Health, Ottawa. We were greatly disappointed after representations we had made that the amount of the original grant was not restored. We are still hopeful for the future.

This additional support was greatly needed, and enabled the Council to enter upon a three-year dental health research project with the Department of Health of the Province of Saskatchewan. The Canadian Dental Hygiene Council's contribution to this is $1,000, the province of Saskatchewan making a like contribution and taking full responsibility for the organization and administration of the project, which entails an expenditure of at least a further $2,500. In this project the Saskatchewan Dental Society is co-operating and giving supervision.

The scheme embraces complete dental treatment to a selected group of high school boys and girls, in the drought area of the province, each of whom will be recommended for this treatment because of some physical defect or mental retardation believed to have been brought about by diseased teeth. The only treatment available to these boys and girls in this particular area at the present time is extraction, which is provided under government relief — no provision whatever for restorative or reparative treatment. The research project will take care of this lack. An endeavour will be made

to enlist the services of dentists who are particularly interested in research problems, and it is planned now that action will begin during the winter months of this year. Special charts and forms are being prepared which will give continuity to the statistics covering the three years. The Department of Health will provide a chart showing the physical condition of every boy and girl treated, also a chart showing the academic standing. These will all be kept on file, and we are convinced that figures will be available during, and at the conclusion of, this project, which will present conclusive evidence of the value of dental treatment and the elimination of dental disease, in cases of mental and physical disabilities.

The increased grant from the Federal Government, besides providing money for this Saskatchewan project, has enabled us to increase the salaries of some members of our staff who, during the past four years since our Federal grant was reduced, have been working on a twelve-months' basis with a seven-months' salary. This added revenue enabled us to re-establish them on a ten-months' basis.

SUMMARY

*Nova Scotia,*—Five months' intensive educational campaign; splendid co-operation from Government and organizations and from the Provincial Dental Society.

The Government Department of Health is inaugurating a program of dental clinics and educational work, providing full time services, Public Health nurse, and mobile dental clinic for remote districts. This will be carried out in conjunction with the Nova Scotia Dental Association.

*Prince Edward Island,*—Increase in number of dental clinics.

*Quebec,*—Public Dental Health organization being formed to carry out a province-wide Dental Health educational campaign, starting with a grant of $5,000.00 from the Provincial Department of Health.

*Ontario,*—An extension of Public Dental Health work through certain sections of the province, and the establishment of new school clinics in several towns and cities. These new clinics will be financially assisted by the Provincial Department of Health.

*Manitoba,*—The Provincial Department of Health has increased its grant for Public Health throughout this province.

*Saskatchewan,*—The Department of Health has also doubled its grant and more, which has made it possible to give full dental treatment to over 7,000 children under 12 years of age in the drought area, to whom dental services were otherwise unavailable.

*Alberta,*—During the past few weeks we have been advised that the Provincial Government through its Department of Health, has made a money grant to be used jointly with smaller grants from the Canadian Dental Hygiene Council and the Alberta Dental Association, to inaugurate a Public Dental Health program in that province.

*British Columbia,*—This province is increasing from year to year its activities along Public Dental Health lines, financed entirely by the Provincial Department of Health, the administration of which is carried out by the Hon. Dr. Young, Provincial Department of Health.

Well, this is what we have done, and I feel that 1938 has been a banner year for Dental Health education work in Canada, and the officials of the Canadian Dental Hygiene Council are highly gratified that they have been able to have a part in this work, which has been made possible by the continued financial support of the Canadian Life Insurance Officers Association.

HARRY S. THOMSON, *Field Secretary.*

# A Survey of the Endocrine Problem, with Particular Application in Orthodontia*

by D. W. GLASSEY, M.D., Toronto, Ontario

THIS subject is so comprehensive that it is almost impossible to deal with it in a single evening. Reference only will be made, therefore, to certain aspects. It should be obvious from such a subject that dentistry is a specialty in the inclusive term medicine, similarly as are surgery, obstetrics, paediatrics, and so on.

In this problem, it will be necessary to refer to calcium metabolism, bone formation, the vegetative nervous system, the endocrine glands, and the vitamins.

## Calcium Metabolism

In the first place, the daily diet, to be adequate, must contain 1 gm. of calcium and 2 gm. of phosphorus, for the American adult. The pH of the small intestine, in which calcium is absorbed, must be acid and must not contain an excessive amount of fat. There must be adequate supply of the necessary food factor vitamin D, known as the "antirachitic factor." The level of serum calcium is controlled by the hormone of the parathyroid gland. The deposition of calcium in the bones probably is facilitated by the presence of an enzyme called phosphatase. The more complex biochemical aspects of these phenomena are of little interest in the present study. The absence of vitamins A and D, and the mineral salts of calcium and phosphorus result in serious atrophy and grave alterations in the various elements of the teeth. These alterations are much more serious if they appear during early developmental phases. They improve with addition of the salts of calcium and phosphorus, and entirely disappear upon simultaneous administration of cod liver oil. (1) The calcium content of the teeth decreases with a calcium-poor diet. (2) "The varying degrees of hardness, strength and rigidity of healthy bone depend upon the proportions of the organic and inorganic constituents incorporated into its structure." In most of the bone diseases this balance is altered. Absorption of calcium and phosphorus from the small intestine can be increased by raising the intestinal acidity with sugar or ammonium chloride, and by increasing the intake of vitamin D.

There definitely is a possibility of over-assiduous administration of calcium to the pregnant woman. So long as the patient takes an average of 1 qt. irradiated milk daily, 3-5 eggs weekly and plenty of green vegetables, other things being normal, she should be receiving an adequate supply of minerals and vitamin D. With reason, this may be increased during the last month of pregnancy and during lactation, when there appears to be an increased drain upon the maternal calcium stores. It has been the rule of the author, upon registering the obstetrical case, to examine the mouth; and to advise the patient to return at once to her dentist, again in the ninth month, and again in the second and sixth months post-partum, with the request that she asks him for co-operative instructions. This would seem to give the mother and the newborn infant the best possible dental conditions.

As therapeutic agents in altered cal-

* Read before the Toronto Orthodontic Club, December 2, 1938.

cium balance, we have available (1) calcium in its various forms, (2) parathormone, (3) ammonium chloride and (4) the antirachitic factor vitamin D. In the clinical experience of the author, very satisfactory results have been produced by the administration of calcium in the form of calcium gluconate, gr. 10, twice or three times daily, half an hour before meals; or perhaps even better by employment of phytine tablets, two or more, three times daily, half an hour before meals. Incidentally, it has appeared that this latter substance has assisted young adults, in particular, during the difficult stress of high school and university examinations, against nervous fatigue. With this, of course, vitamin D should be added in any of its several forms on the market today.

### Bone Formation

The normal phenomena of bone formation are not completely understood. Calcium and inorganic phosphorus are held in solution in the blood serum in much higher concentration than in water because of the high carbon-dioxide concentration in the serum.

Bone resorption and deposition is a continuous process, the greater activity being noted in areas showing the most active growth, which areas, therefore, are most sensitive to decalcification by increased parathyroid hormone. Such areas are the cortex of long bones, particularly near the epiphyses; costochondral junctions; the spongy bone of the metaphyses and the bones of the skull and lower jaw —areas one examines carefully for rickets in routine examination of a baby.

The rate of calcium excretion may be increased in five ways, to produce a negative balance in serum calcium and result in decalcification of teeth and bones. These are: thyroid extract, parathyroid extract (or parathormone), deficiency in vitamin D, excess in serum phosphorus and acidosis. By administration of parathormone and by increasing intestinal acidity, the increased calcium excretion is through the kidneys. (2)

### Endocrine Glands

One of the closest links between dentistry and medicine is the glands of internal secretion. These include the pituitary, adrenals, thyroid, parathyroids, thymus, pancreas, breasts, pineal, reproductive system, liver, spleen, certain factors in the gastro-intestinal tract, and, in pregnancy, the placenta.

The pituitary gland, of course, is the "master gland" of the chain. It rests in a bony recess in the base of the brain. In development, the anterior lobe arises as an invagination from the roof of the mouth; the posterior lobe similarly originates from the developing brain stem; and the pars intermedia, of which little is known, is the rather indefinite portion between these lobes.

In the anterior lobe, there have been isolated five definite principles which control skeletal growth, the reproductive system, the breasts and lactation, the adrenal glands and thyroid activity. (3)

In the posterior lobe are two proven principles. (3) These are pitressin and pitocin. Pitressin affects the cardiovascular system, respiration, and kidney function. Pitocin affects uterine contractions. This lobe acts as an antagonist against insulin, since it produces hyperglycemia.

The less understood pars intermedia elaborates a hormone called intermedin, which affects the water balance of the body.

In considering pituitary adenopathies, it is not sufficient to refer glibly to hypo- and hyperpituitary function, as has been done in the past. It now is possible to decide which of the glands is involved as the seat of the trouble. Because of this and the fact of the interdependence of

the component parts of the endocrine chain, one may employ mono- or pluriglandular therapy, according to the case in hand, but diagnosis must be accurate.

"The pituitary deficiency of infancy apparently does not predispose to any orthodox problem." (4) To puberty there is little characteristic other than generalized slowness of tissue growth. This may continue through puberty, or different tissues may remain slow and others become more rapid in growth. Manifested in the jaws, there may be almost completely delayed mandibular development and normal maxillary development. One sees normal-sized teeth in infantile jaws, in which case there must be considerable over-crowding of the teeth in these small jaws. If there be a "relative over-development of the mandible with prognothism," the result will be malocclusion in proportion to the abnormality. There may be irregularity in development of one or both sides, mandible or maxilla. In the presence of soft bony structure the importance of early recognition and treatment is apparent. And the consideration of the osseous problem is more important than the actual problem of the tooth.

In so-called hyperactivity of the anterior pituitary body, the affliction of interest to dentists is called acromegaly. This disease is very slow in onset, occupying from 15 to 20 years to develop. It is a gradual over-development of all tissues in the body, including, of course, the bones of the face. One treats the case symptomatically only.

Of the better-known endocrinopathies are those associated in the female with menstruation. A simple way to think about this is the elaboration, in the anterior pituitary body, of two substances called prolan A and prolan B. Prolan A stimulates the formation of the graafian follicle and production of the follicular hormone oestrin. This acts upon the endometrium of the uterus to heap it up in increased thickness. At the middle of the menstrual cycle, prolan B stimulates the formation of the corpus luteum and its hormone progesterone. This produces in the now hypertrophied endometrium increased glandular development and increased vascularity. At this stage, just at the end of the menstrual cycle, the endometrium is prepared to accept the impregnated ovum for cultivation, or to be cast off in a spontaneous exfoliation termed menstruation. Therefore, irregularity in any phase of this plan will produce a definite clinical entity — perhaps too much oestrogenic activity with flooding periods, termed menorrhagia; perhaps too scanty oestrin or progesterone production, with resultant scantiness of menstrual flow, termed amenorrhoea; or there may be a mixed case, with irregular irregularity. Obviously, therapy depends upon diagnosis.

### Male Sex Hormone

One of the most interesting developments of very recent years is the isolation of the pure male hormone—the elaborated propionic acid ester of testosterone. This is marketed as perandren and oreton. During the past two years, the author has studied more than one hundred cases, in which perandren was administered to the male and the female. The action of this substance varies with the requirements of the case in hand.

In the case of the adult male in Europe, in whom the testicles accidentally had been removed *in toto,* of course he was impotent. However, having had administered relatively large amounts of perandren, he eventually married and was enabled to continue all normal functions, except reproduction.

In the adult single male in Toronto, complaining of profound lassitude with inclination to sleep most of the day and night, ready mental fatigue, loss of am-

bition, loss of business courage and a recurrence of symptoms of a previously healed duodenal ulcer, marked improvement with disappearance of all complaints was noted after administration of perandren for a period of three weeks. Still further improvement was noted when to this was added koroptron, an anterior pituitary-like hormone. Yet no improvement was displayed when the latter was administered in the absence of perandren.

The young adult female, diagnosed melancholia depressant, showed no improvement following administration of the routine tonics, female glandular preparations, sedatives, etc, although she had a history of mild secondary amenorrhoea. But upon administration of perandren over a period of 7 weeks, all complaints disappeared, except the original amenorrhoea.

It is the belief of the author, then, that this synthetic male testicular hormone is bi-sexual; that its action in the male is to act as a sedative to the vegetative nervous system, replenish mental and nervous fatigue, establish sexual vigour, cause decrease in size of an hypertrophied, boggy prostate gland; and has a number of other actions reported elsewhere (5).

### Reproductive System

Normally, the reproductive system appears to have little importance in dental activity or serum-calcium level (6). However, in those cases in which the gonads fail to reach maturity, the factor which they elaborate to close the epiphyses and check activity of the growth hormone is not produced. This results in disproportionate growth of the long bones. Failure of the gonads to mature usually is due to deficiency in the thyroid or the gonadotropic principle in the anterior pituitary body. If due to thyroid deficiency, one will observe poor dental development, deficient calcification and "early caries with particular selection of the first molars. Deficiency in the gonadotropic principle of the anterior pituitary gland is not of necessity associated with dental problems.

### Thyroid Gland

This gland is like a collar situated in the anterior aspect of the base of the neck. When deficiency is manifested in this gland, in the congenital type it is known as cretinism, and in the adult form as myxedema. In the congenital type idiocy obtains. There is noted in infancy delayed eruption of the deciduous teeth. Often this is ascribed to rickets, which is a vitamin D deficiency. When these teeth do appear, it often is in irregular order and displaying a variety of structural disturbances. "This is most marked in the first molars, in which the cusps may be entirely un-united, standing out in the gum tissue as four separate points with gum tissue present between the points. In the less severe disturbances there will be seen a tooth with enamel deficiency between the cusps, a point which obviously affords an early opportunity for caries. The first dentition is poorly calcified and there is a very high incidence of caries. These teeth are frequently irregular in size, because of the fact of the abnormal time in their eruption. At this stage no deformity of the jaws can be determined. In the older children of this type, one frequently sees disturbances in jaw development, but these conform to no standard type and are not uniformly present. It seems apparent that faulty development of the jaw is not due primarily to the thyroid deficiency, but results mechanically from the malocclusion and faulty eruption of the teeth." Otherwise one should expect jaw changes in all such children. With increase in the age of the child, the dental condition 'progressively deteriorates', so that early extraction, particularly of the first molars,

becomes necessary. The dental profession for years has recognized the importance of these particular teeth in preserving normal contours and in controlling the mechanics of jaw development. A thyroid deficiency therefore is an important factor in the production of these disturbances." (4)

When this individual comes to puberty, he often displays abnormal sex characteristics. In this case, there is disturbed eruption of the permanent teeth with abnormal shapes. "The maxillary central incisors are frequently overlarge, the lateral incisors being much smaller, and crowding and overlapping are common. The incisors may be very slow in appearing. These teeth which are oversized are well calcified and resistant to caries. Those which are small are poorly calcified and prone to early disintegration. The canines may be entirely missing, may appear in anomalous positions and may be distinctly undersized. The molars are frequently late in appearing and show the same faulty structure and incompleteness of development as was seen in the first molars. This incomplete union of the cusps results in early appearance of occlusal decay. These children show an inability to retain fillings, so that in spite of adequate dental attention the molars are frequently lost at an early age." (4)

This type frequently appears before the orthodontist. A fact apparently difficult for many to grasp is that these endocrinopathies appear in all degrees of severity. And herein perhaps lies the greatest value in adequate dental and medical co-operation. It is doubtful if thyroid extract therapy will be of assistance to teeth already erupted. Since the success or failure in thyroid therapy for dental development depends upon a recognition of the deficiency in the child of four to six years, an age at which few children are brought to the orthodontist, the onus of the situation would appear to rest upon the shoulders of the family physician, who should make it a point to seek such dental problems and institute correct treatment. Patients seen even as late as five and six years of age have developed excellent permanent teeth. An orthodontist has, then, a relatively small opportunity of improving the dental problem presenting at puberty.

In thyroid deficiency appearing in the adult, gradually there develops in certain of these cases of myxedema, a general thickening of the skin. He feels as though the skin would split, the subcutaneous spaces being filled with a mucinoid fluid. In some cases the teeth become loose; and in some the gums become dry and swollen. There may be late dentition, with permanently delayed tooth eruption, perhaps to the age of nine or ten years. If the deciduous teeth remain, there may be a double row of teeth. The poorly formed permanent teeth are prone to develop caries. In these cases, administration of thyroid extract should effect improvement in maldentition. Certainly the general health will respond to this therapy. In the cretin, the bones of the jaw and skull, showing a wide tooth spacing and poor occlusion, caries appear and there is an accumulation of tartar about the gingival margin. Dentition is delayed, perhaps, until the third year. The structure of the tooth is bad and prone to the development of dental problems. Good response may be hoped for in the administration of thyroid extract.

Less specific are the dental changes of exophthalmic goitre, or increase in thyroid activity. The calcium elimination is increased by 200-500%, the blood serum level remaining unchanged, the phosphorus level following that of calcium. The increase in elimination is noted in the urine and faeces. This negative balance is stopped by administration of

thyroid extract. To correct the condition is a different story.

### Parathyroid Glands

These are four to six in number, situated behind or within the thyroid gland. They are concerned with calcium metabolism. If these be removed or destroyed during surgical or x-ray therapy of the neck, there is produced an inability on the part of the body to mobilize calcium from the bones and teeth, which are recognized as the calcium stores of the body. This results in lowering of the serum-calcium level and the clinical entity known as tetany. The predominant feature of this is extreme nervous irritability and muscular spasms when the level of serum-calcium, normally between 9 and 11 mg. per 100 c.c., falls to 4-6 mg. In hypertrophy of one of these glands from tumour growth, however, one finds excessive mobilization of calcium, the excess being drawn from the teeth and bones and excreted through the kidneys and large intestine. This produces a cystic degeneration in the bones when developed in childhood; and generalized softening of the bones when developed in the adult. There is no evidence to support the theory that the parathyroid gland is responsible for dental caries. (4)

If the theory of Broderick (7), that the vegetative nervous system acts under the influence of the endocrine glands, it is quite possible that the endocrines control salivation, metabolism, mineral balance, digestion and excretion, etc. The vegetative nervous system is comprised of the sympathetic and para-sympathetic nerves. That this vegetative system influences the glands, and through them the body, is exemplified by the remark of a young adult male, in whom this system particularly was irritable, that whenever he became unusually upset or fatigued, the hair became dry, brittle, lack-lustre, and the skin dry. These may be produced by either thyroid or parathyroid deficiency.

When the sympathetic part of the vegetative nervous system is stimulated, one effect is an increase in adrenal activity, with increased adrenalin content in the blood. This effects an increase in blood alkalinity. If this alkalosis be not compensated for by the buffer system of the blood, or increased muscular activity, the resultant alkalosis is stated (7) to be a predisposing condition to formation of serumal tartar, which may be an immediate causative factor in pyorrhea formation. It is interesting to note that several patients, who had been treated for some years for this affliction, had been completely cured by treatment with the pluriglandular preparation marketed as bioglan (8).

To many, the sympathetic and para-sympathetic systems are but names. To most patients suffering from increased nervous tension, are prescribed bromides or barbiturates, with indifferent results. If instead, they be given small doses of bellergal, sedatives for these nerves, the results will be excellent. Broderick (7) remarks that the sympathetic system stimulates the activity of the thyroid, adrenal and reproductive glands; and that the para-sympathetic system stimulates the pancreas and anterior pituitary glands. He also states that these glands stimulate the nervous system which stimulates them. Irritability of the sympathetic system, produced by overdosage of thyroid extract, responds poorly to the barbiturates or bromides, but very well to bellergal; and stimulation of the sympathetic nerves produces increased activity of the thyroid gland.

From this survey, it will be obvious how closely allied are dental and medical problems. For a dentist to fill some teeth and extract others, is to scratch at the

surface of the trouble. For the physician to prescribe a bottle of tonic or a box of pills, is to pass over what may be a very deep-seated ailment. The dietary of the American public is deficient in calcium intake, which, in the adult, should be a daily amount of 1 gm. Intestinal activity must be regulated and the dietary replete with vitamin D, for adequate assimilation of the intake. The endocrine background is extremely vital in the control of the whole of the body, bone and tooth structure and normal function. The master mind of the endocrine chain is the pituitary body. Many influences affect it. One of the more interesting of the newer discoveries is the isolation of the male sex hormone and its ability to put energy and courage into men who had considered themselves to be "getting up in years" or "slipping," and who had been given to understand that little could be done on their behalf. Similarly, menstrual disorders in women usually can be controlled by endocrine therapy; and to a greater degree than by resorting to surgical interferences. Of the endocrine chain, perhaps that gland most important to dental consideration is the thyroid. It is unfortunate, perhaps, that the dentist must hope that the physician will send the very young patient to him for early observation. Perhaps contrary to the belief of many, the parathyroid gland, influencing as it does calcium metabolism, has very little importance in dental disturbances. The vegetative nervous system must be given due prominence in these disorders. When this information is in the hands of the dentist and physician, both working together for the health of the patient, most satisfactory results are to be expected.

Since the present considerations are so time-consuming, the question of the accessory food factors, the vitamins, will not be raised herein, other than to suggest that the anti-scurvy vitamin C also is known to exist in the suprarenal cortex; that vitamin B "rebuilds" nerve structure; and that vitamin E is allied closely to the male and female sex hormones. Perhaps this may be elaborated upon at a future presentation.

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7. Broderick, F. W.—"A Lecture on the Effect of Endocrine Imbalance and the Nervous System in Dental Disease"—Birmingham Med. Rev. /29.
8. Rutherford, E. E., 248 Bay Street, Toronto —Reports of patients, by correspondence, who have been improved by treatment with pluriglandular Bioglan therapy.

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## *Conventions*

NOVA SCOTIA DENTAL ASSOCIATION, HALIFAX, AUGUST 31—SEPTEMBER 2, 1939.

GOLDEN GATE DENTAL CONGRESS, SAN FRANCISCO, CALIFORNIA, SEPTEMBER 25—27, 1939.

FIFTEENTH ANNUAL FALL CLINIC OF THE MONTREAL DENTAL CLUB, MONTREAL, SEPTEMBER 27—29, 1939.

SIXTY-THIRD ANNUAL CONVENTION OF THE EASTERN ONTARIO DENTAL ASSOCIATION, CHATEAU LAURIER HOTEL, OTTAWA, ONTARIO, OCTOBER 16—17, 1939.

# Practice Management

Our readers are invited to send their suggestions on office management and practice, or concise articles on some phase of this subject to the "Editorial Office", 314 Somerset Building, Winnipeg.

## The Dentist's Health

by J. MENZIES CAMPBELL, F.R.S.E., D.D.S. (Toronto), L.D.S. (Glasgow), L.D.S. (Ontario)

AN impression has persisted that dentistry is an unhealthy occupation. It is, consequently, all the more surprising to realize that a dentist's longevity exceeds that of the average layman, and markedly so that of a physician. The comparative mortality figures of the last-mentioned and our own profession is in the ratio of 1021 : 910. The Dentists' Provident Society records that, annually, about 17 per cent. of its members are incapacitated for varying periods, influenza being most frequently responsible. Figures are not, however, available as to whether a dentist suffers more than others not in his profession from such minor ailments as nasal catarrh and sore throats. As these would incapacitate him for only a day or two, they would pass unrecorded in health insurance statistics.

The chief factors affecting a dentist's health are: (a) The nerve-racking nature of his work: I am afraid it is impossible to alter this. The most effective means of combating it is by maintaining the general health at the optimum level. Recreations, such as golf, walking and gardening, are particularly valuable; in fact, anything capable of temporarily absorbing one's interests to the exclusion of dentistry. (b) Worry: This is the formidable antagonist of every conscientious dentist. It is serious because, by precipitating further anxieties, it initiates a vicious circle. (c) Infection from a patient's breath and the risk of septic debris entering the eyes, or being inhaled: These, I am convinced, can be markedly prevented by wearing glasses and masks while operating. When the former are unnecessary to improve vision, plain ones should be worn. No one is more surprised than a dentist himself, the first time he wears glasses, to discover the amount of foreign matter that has collected on them. A mask protects the nose, mouth, and throat against infection and irritation from dust particles, besides affording patients an added sense of security; the last-mentioned is a not inconsequential psychological factor. I have, for years, experimented with various types of masks, many home-made. The majority of them, however, proved unsatisfactory, but I can recommend one fashioned from celluloid and conforming to the outline of the nose and mouth. It is attached to the ears by wires, similar to the arms of a spectacle frame. I have not experienced any discomfort whatsoever in wearing this, or impairment of either vision or breathing.

(d) Ill-ventilated surgery: This invariably results in headaches or depression. The problem of adequate ventilation sometimes proves difficult because air, free from dust and draughts, is certainly indicated. From experience, I have found that the best, yet by no means the ideal method is, between patients, to open the

door and the window at the top having had fixed on the outside of the latter a wooden frame with an inset of finely meshed zinc gauze.

(e) Posture: Our usual working posture cramps the abdominal muscles and viscera, thus impeding digestion; and also the lungs, restricting breathing. We can, however, satisfactorily counteract these undesirable results by adherence to regular meal-times, followed by a short walk. Should a dentist be so grasping for work as to neglect such sensible measures, he is undoubtedly inviting disorders. We are masters of at least our appointment books. There is, therefore, no necessity for any of us to treat patients within the prescribed meal-times, unless in exceptional circumstances.

(f) Painful feet: Dentists, particularly the corpulent, are frequently afflicted with painful feet, due naturally to prolonged standing. To counteract such a disability, regularly bathe the feet, afterwards rub them with industrial spirit, and change the socks daily. Practising in glace kid slippers is an excellent preventive, quite apart from presenting a smart appearance. Further, utilizing an operating stool, whenever possible, is to be recommended.—*Excerpt from Presidential Address delivered at a meeting of the West of Scotland Branch of the British Dental Association, Glasgow. From British Dental Journal, Feb. 15, 1939.*

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## *How to Keep Money*

by PERCY B. D. IDLER, D.D.S., Chicago, Illinois
(*Excerpt from The Dental Magazine and Oral Topics, January,* 1939).

IN the first place the average dentist has no business to have more than one car. One car is plenty. That is all he needs. He does not want one costing $6,000 and another costing $3,000. There is no necessity at all for such indulgence. If you must have a car, then buy one of the low-priced makes. It will get you to any place you can reach in a more expensive car, and bring you back again. The expensive car will not do that sometimes. A $6,000 house is all an average dentist has any business to have. Get away, too, from the budgeting plan. Do not buy yourself a refrigerator or radio or washing machine if you have not the money to pay for it. If you budget yourself to death you cannot expect to have anything left at the end of the month.

Oftentimes, also, the dentist's overhead expenses are too high. Why not keep a double-entry set of books? Enter all the money you have earned, and what you have put into the bank, and then find out how much you have left. You can do sometimes with less than you think and be happy. I once read a little book entitled "That Something." It said that every man possesses "That Something." Whether "That Something" is your personality or your workmanship, you have "That Something," but it must be developed. That is what makes for success, and the sooner you find out what "That Something" is, the faster you will progress.

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**Fifteenth Annual Fall Clinic of the Montreal Dental Club, September 27—29. See program in the Quebec News Section of this Journal.**

# Problems in Practice

Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

**PROBLEM FROM PRINCE EDWARD ISLAND:**

On December 28, 1938, I had the misfortune to break a hypodermic needle when making a mandibular injection, about one half inch of the needle remaining in the tissues. The patient was sent immediately to the hospital where a roentgenogram showed the location of the needle. The patient was advised that no harm would result from the needle in its present location. I have seen the patient since then and conditions appear normal. I should appreciate an expression of opinion as to whether the needle should be removed or not.—*Dr. X.*

**REPLIES FROM UNITED STATES:**

Although breaking a hypodermic needle while making a mandibular injection is most disconcerting, fortunately the broken portion imbedded in the soft tissues usually produces no trouble. Subsequent infection is very uncommon. Accessibility of the broken needle is an indication for its removal, but, as is well known, in most instances such a needle is extremely difficult to find. Consequently it is our opinion that unless the needle is causing some discomfort it should be left entirely alone.—*John B. Erich, M.D., Section of Laryngology, Oral and Plastic Surgery, Mayo Clinic, Rochester, Minn.*

I recommend the removal of all broken steel needles. Where platinum needles are involved there are a few exceptions that would be good surgical judgment to keep under observation, as in the mandibular area objects can move considerably and cause serious difficulty.

In this particular case I would suggest a lateral extra-oral film of the ramus on the side of the needle and a second small intra-oral film at right angles to the inner surface of the ramus. From these roentgenograms the position of the needle can be determined. If it be of platinum material one may definitely decide the advisability of allowing the needle to remain.—*J. Holden Beckwith, D.D.S., Miami, Florida. (Dr. Beckwith is President, American Association of Oral Surgeons and Exodontists.)*

**REPLY FROM NOVA SCOTIA:**

In reference to broken needles during the injection of oral anaesthetics, I have never broken a needle except at the hub of the syringe. I always use and recommend to the Dalhousie students to employ a needle much longer than is necessary to insert in the soft tissue.

I have removed several broken needles and would not recommend leaving a broken needle in the soft tissue. The needle may move and there is the possibility of a damage claim.—*G. R. Hennigar, D.D.S., Halifax.*

**REPLIES FROM ONTARIO:**

I am firmly of the opinion that when one has the misfortune to break off a hypodermic needle in the deep tissues of the pterygoid-mandibular region and

when the x-rays show clearly the approximate relation and position of the needle to the surrounding tissues, an honest attempt, either by yourself or the oral surgeon, should be made to recover this foreign body.

I grant you it is often a hard and tedious task commanding all your skill and resources.

One cannot with much degree of authority advise the patient that no harm will result if the needle is not removed. Of course, this may act as a mental balm to the patient's mind but successfully removing the needle makes for a permanent cure. — *W. L. Chalmers, D.D.S., Toronto.*

My opinion is that an attempt should be made to remove the needle as soon as possible after the accident. As this was not done and as there have been no ill-effects up to date, my advice would be to leave it alone. This opinion is partially based on a case that came to my attention a few years ago. A surgeon attempted to remove a needle that had been in the tissues for a month, but in that length of time it had already begun to disintegrate so that it crumbled when touched. As a result it was impossible to remove all of it, and apparently no further trouble ensued. — *H. Murray Robb, D.D.S., Toronto.*

Being without the benefit of radiographic or clinical examination, I would be inclined to agree with the policy of non-intervention, as advised. Removal would be chiefly urged on the grounds of interference with function, infection, or possible migration of the needle to a more vulnerable area. Impairment of function is unlikely after this lapse of time and the same may be said of infection. We know that there are thousands of people carrying metallic fragments since the war without incident. Migration of the needle is a debatable point, but if the fragment is lying in the normal relationship of a mandibular injection, any forward migration should be checked by the posterior wall of the mandibular sulcus. The ultimate fate of the fragment will depend on the material of which the needle is made. Carbon steel needles disintegrate in a fairly short time in the tissues, probably through oxidation, while platinum or stainless steel would be much more durable. It should be remembered that the breaking of a needle does not in itself constitute grounds for suit. It would be necessary for the plaintiff to establish negligence on the part of the operator.—*J. H. Johnson, D.D.S., Toronto, Associate Professor, Dental Surgery and Anaesthesia.*

I would say that if at all possible the needle should be removed for two reasons:—

1. It would be better for the patient not to have such foreign body in his tissues. It could cause harm at any time.
2. From the dentist's standpoint it would be a continual cause of worry and feeling of insecurity as long as it remained in the tissues, at least it would to me.

—*J. M. Campbell, D.D.S., Chatham.*

**REPLIES FROM QUEBEC:**

I believe emphatically that the needle in question should be removed. It is beyond the power of man to state whether or not the needle, if left, will cause harm. It is rather a broad statement to say that the roentgenogram showed the location of the needle. There are several definite techniques which render the location and removal of a needle from this area comparatively simple. It is my opinion that the use of Iridium-Platinum

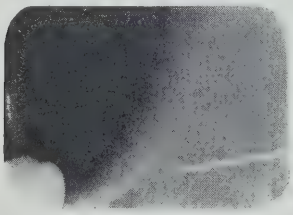
needles will make such accidents a rarity. In my opinion the suggestion to the patient, that the needle be allowed to remain in the tissues, leaves the operator open to an accusation of malpractice.—*F. W. Saunders, D.D.S., Montreal.*

I recommend immediate removal of broken part, in order to avoid possible infection and irritation, as well as movement into deeper tissue and more unfavourable positions. Naturally I would expect this operation to be done by one familiar with this kind of work.—*J. W. Rooney, D.D.S., Quebec City.*

**REPLIES FROM SASKATCHEWAN:**

In a case such as the above, I would, immediately following x-rays, endeavour to remove the part of the needle left in, failing which I would decide to leave it there rather than start in again at a subsequent sitting.

About four or five years ago I had a patient referred to me for an x-ray where a needle had been broken off and left in



Lower Right 3rd Molar Area.
*Picture taken about a year ago—about four years after needle was broken.*

the tissues. Apparently no effort had been made to remove the needle either before or after the x-ray was taken and I have had occasion to observe this patient from time to time and took an x-ray about a year ago and found the needle just as it was left with tissues perfectly normal, with no history of any inconvenience in the meantime. In view of this I would not worry much about the portion of the needle being left in.—*T. Irwin Robb, D.D.S., Regina.*

I am of the opinion that the broken needle should be removed if at all possible.—*W. R. Watchler, D.D.S., Yorkton.*

**REPLY FROM ALBERTA:**

It is always highly desirable to remove a broken hypodermic needle from the tissues.

When left the needle may migrate with possibly serious results. Should it not do so a gradual process of oxidation and encystation would probably occur with no particularly harmful effect to the individual. — *John W. Clay, D.D.S., Calgary.*

**REPLY FROM BRITISH COLUMBIA:**

I believe it is very doubtful if the broken needle in the position referred to will ever cause any inconvenience. It will in time be covered with fibrous tissue which will immobilize it. It should be free from muscular movement in the area near the mandibular foramen. I would take a radiogram occasionally to see that it has not moved.

Should it ever be considered necessary to remove it, which I doubt, I would locate it by inserting a very small surgical needle into the tissue over the approximate position of the needle and x-ray directly through the mandible. This would give the position for a small transverse incision to be made down to the broken fragment.—*Edgar H. Crawford, D.D.S., Kamloops.*

# The Forum

## • RESPECT OUR RESEARCH WORKERS

by PAUL R. STILLMAN, Longwood, Florida

IT is very annoying to most neighbours, even to musicians, to hear a lad trying to learn to play a clarinet. All musicians pass through "learning" and some attain a knowledge of the art of music. Dentists are primarily interested in the art of dentistry; that idea refers to "practice." Technological art in dentistry gives stress to the idea of digital skill. That requires knowledge, and dentistry now possesses that form of knowledge; but there are other forms of knowledge which dentistry does not yet possess: they do not yet exist. Biological knowledge, such as has already been developed, is applicable to the healing art. The practice of medicine is defined as "the healing art." That idea permits the recognition of technological dentistry, the purpose of which is prosthesis, and dentists can point to dental prosthesis with pride. So long as teeth, or parts of teeth are lost, prosthetic dentistry will live—and be appreciated.

Reference to practice in learning to play a clarinet can, by analogy, be made to refer to the efforts being made to develop biological science for the use of dental art. Some efforts appear to be absurd whenever any original thing is attempted to be done. And *all* art is essentially "something to be done." Parents smile with amusement when their child attempts to learn to walk — and walking is "something to be done"—but these parents *never* laugh in derision, regardless of how clumsy a child performs. They love the child and confidently believe that the child will learn; but a babe must learn to "watch its step."

Dentistry is developing scientists who are bent upon a quest for knowledge, which can be applied to dentistry, as "a branch of the healing art." The knowledge which they develop and which is applicable, will be immediately used by dentists who are more interested in *art* than *science*. Some sincere efforts of the science group appear to be trivial to those most interested in the art of dentistry as it now exists. That is where these dentists should "watch *their* step."

If one has humour one may laugh at anything without offence — even at a clarinet player, or a babe learning to walk. We should be equally considerate of the sensitiveness of our own scientists who search for knowledge, so that *we* may learn. You, brother dentist, may not be interested in the effect produced by the application of the chemicals which dentifrices contain, after they have been applied to a dead frog's eyelashes. Let fools laugh. We may have no conception that such knowledge can ever have any application to dentistry. But, if that subject interests our research workers we can at least be polite to them.

## • CASE HISTORY

by HAROLD N. KNIGHT, Edmonton, Alberta

THIS woman, aged 57, was accidentally kicked by a horse when she was quite young, from which she lost the ridge of her nose. It gave her face a very flat appearance with an ugly scar. In fact, the scar showed up more than it appears in the pictures. (Fig. 1.)

The cost being a consideration and also the fact that she had an internal cancer prevented her from having a plastic surgery operation.

Figure 1.

As I was making an upper denture for her and she was also having a pair of glasses made, I took an impression of her face and on the model moulded a new wax nose. The final carving was done directly on the face and then it was reproduced in pink rubber. Two coats of pink Duco were applied and by the use of oil paints the colour of the patient's skin was reproduced on the artificial nose; this latter procedure being the most exacting part of the whole operation. (Fig. 2.) There is an indentation on each side of the artificial nose in which the guards of the spectacles rest and help to hold the appliance in position. It was surprising to see how well it stayed in place. The one indentation can be seen in the picture of the substitute (Fig. 2) and I have also tried to bring out some of the colouring to show up the detail.

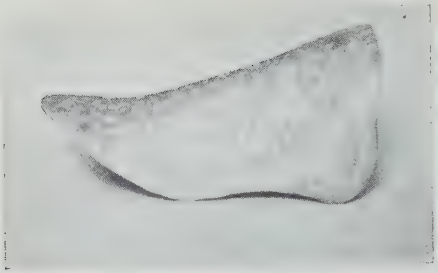


Figure 2.

The side view of the patient also shows how the upper lip has filled out due to the insertion of the upper denture and altogether she has a much more pleasing appearance. (Fig. 1.)

**• "BELIEVE IT OR NOT" CONTEST**

FIRST prize in the national "Believe It or Not" contest, went to Miss Doris Lee, of Anoka, Minn., for the story of Nimrod Robertson's unique dental accomplishments in the wilds of Alaska.

About 30 years ago, Mr. Robertson was prospecting for gold on the Yukon near Eagle, Alaska, and was known throughout the Yukon country for his genius and the unusual things he did. But the most unusual happened when his health began to fail. He decided that the cause of ill health was badly decayed teeth, and being a long distance from a dentist, he pulled all his own teeth with an ordinary pair of pliers. But he had to have teeth, and devised a way of making artificial plates himself. He then fashioned metal plates to fit his mouth and shot a bear in order to obtain teeth, which he set in the plates for a perfect fit. The bear he hung up to freeze, and during the long winter he ate the bear himself with the bear's own teeth.

Dental Exhibit at the Golden Gate Exposition

*Editor*—M. H. GARVIN, Winnipeg

A S S O C I A T E  E D I T O R S

PRINCE EDWARD ISLAND

*D. T. Waye, Charlottetown*

NOVA SCOTIA

*S. G. Ritchie, Halifax*

NEW BRUNSWICK

*J. F. Edgecombe, Saint John*

QUEBEC

*F. W. Saunders, Montreal*

ONTARIO

*T. R. Marshall, Toronto*

MANITOBA

*J. F. Morrison, Winnipeg*

SASKATCHEWAN

*F. C. Harwood, Moose Jaw*

ALBERTA

*John Clay, Calgary*

BRITISH COLUMBIA

*J. S. Bricker, Vancouver*

# *Recent Trends in the Journalistic World Affecting the Practice of Dentistry*

In a recent popular novel we read these lines, "That day she had taken the children to the dentist because her presence and encouragement had always helped them through such ordeals."

In one of the latest moving picture productions the leading man is made to say, "I had a tooth extracted the other day and I yelled so hard it rang the church bells two miles away."

Some months ago "Life" magazine published a page of pictures which emphasized the pain aspect of dental operations. More recently the "Canadian National Home Monthly" published the following poem entitled, "The Song of the Dental Demon" which reads as follows:

"I swoop and swerve till I find the nerve,
His frantic sobs unheeding;
Then slide and slip while I catch his lip,
To leave it bruised and bleeding.
I jab my thumb in his tender gum,

The probe and file applying;
A skilful punch or a sudden crunch —
Oh! see the splinters flying.
I tell a joke as I prick and poke,
And chuckle appreciation;
His swollen tongue, adroitly wrung
Forbids vituperation." and so on.

Quite recently Libby, McNeill & Libby Company in advertising its tomato juice in several Ontario newspapers, depicted a dental office with a dentist holding up a cruel-looking drill with apparent pleasure while the patient was jumping out of the window with just his feet showing as he disappeared. Opposite this cartoon was shown what appeared to be a newspaper clipping with the caption "Modern Dentistry Practically Painless" and below this the heading "You May Disagree."

Only too frequently cartoons and articles, detrimental to public dental health and to the dental profession, appear in public print. This should not be tolerated. The problem is what can be done about it. In the past little or nothing has been attempted to correct this growing evil, but today through the Canadian Dental Association and organized dentistry in other countries, much is being done.

When "Life" magazine offended in this respect, the editors received numerous letters from many parts of the continent, which resulted in their co-operating with the New York Bureau of Dental Information, a bureau created by the First and Second District Dental Societies of New York, which led to the publishing of ten full pages on "Dentistry," well written and splendidly illustrated. This must have resulted in a tremendous amount of good as "Life's" total estimated reading audience, at that time, was 17,300,000.

In the case of the "National Home Monthly" the writer interviewed the editor and subscription manager and explained how serious such articles were, from the standpoint of national health, in that people were influenced, through the fear created by such suggestive articles, not to have the needed dental service performed. We were assured that such monstrosities would not appear again in this magazine.

In the case of the Libby Company cartoon our President, Dr. Stephen A. Moore, discussed by letter this matter with the advertising agents and was advised that his communication gave a very different understanding of the importance of this problem, and that the cartoon had been accepted without any appreciation or thought of the harm it might do to the dental profession, and that they would gladly withdraw the offending cartoon from publication.

On the other hand there has been a recent trend for up-to-date publishers to welcome timely articles on dental health problems. Last February the "Canadian Home Journal" published a splendid article, by Dr. Harry S.

Thomson, entitled "Look After Your Teeth." The arrangements for this publication were also made by our President. As the reading audience of this magazine is about 1,000,000 per issue, the good obtained therefrom is hard to estimate.

In McCall's magazine for May an interesting dental story entitled, "Then and Now," appeared which was addressed primarily to parents. This magazine also has a very large circulation. A hand count of the March issue, 1938, showed a total circulation of 2,859,749, including a Canadian circulation of 128,124. Of course, the reader audience would be much in excess of these figures.

This problem is a vital one to every dentist in Canada, and we would urge you, as individuals, to take personal action every time you see an offensive article or cartoon in the public press or hear an objectionable statement made over the air. Do sit down and write at once to the offender and point out the danger to the health of our Canadian people in frightening them away from dental offices. In most cases you will find the editors sympathetic and willing to co-operate, when the matter is thoroughly explained. It must be obvious to you that a thousand objections would prove vastly more effective than a dozen, so let us urge you again to act promptly, whenever a problem of this kind arises in future. You may be assured, also, that the Canadian Dental Association will take official action whenever it is apprised of any such objectionable article or picture appearing in Canadian publications.

It is not so easy to control statements in novels and in the moving picture productions, but even here something can be done and will be done. In this connection we might point out that many of these remarks to which we take such exception would lose much of their force and their so-called humour, if we, as dentists, would use greater care to avoid the producing of pain by the regular use of well-recognized methods of pre-medication, and by employing expert operative technique.

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## BOOK REVIEWS

**Nutrition and Physical Degeneration,** by Weston A. Price, M.S., D.D.S., F.A.C.D.; Member Research Commission, American Dental Association; Member American Association of Physical Anthropologists; Author, Dental Infections, Oral and Systemic. 431 pages, 417 illustrations. Published 1939, by Paul B. Hoeber, Inc., Medical Book Department of Harper and Brothers. Cloth, $5.00.

For many years Canadian dentists have been particularly interested in Dr. Weston A. Price, of Cleveland, and his accomplishments in the field of research. His reports on field studies on the life of primitive tribes in various parts of the world, which have appeared, from time to time, in the professional magazines, have been read with more than casual interest.

Dr. Ernest A. Hooton, the distinguished physical anthropologist, of Harvard, in his "Foreword" to this book states that Dr. Price has written "a profoundly significant book," that he has not only found out why primitive peoples have good teeth and why their teeth decay when they become "civilized," but he

has applied his knowledge acquired from savages to the problems of their less intelligent civilized brothers.

Dr. Price has written a fascinating story of the life and customs of savage tribes in many remote sections of the world, and concludes that improper nutrition is responsible for the widespread tooth decay and dental deformities among "civilized" people. He shows the specific value of certain foods to prospective mothers and their children; how primitive people avoid deficiency diseases; why certain physical deformities are less frequent among savages. Dr. Price applies this wisdom of the primitive peoples to our modern health problems in a very practical manner and shows us how we can build sturdier bodies and a resistance to many diseases.

In these days, when the public is being enlightened as to the importance of diet as related to general health and also to the health of the mouth, it behoves every dentist to become particularly well informed upon all phases of this problem. For this reason and because Dr. Price's findings can always be studied with interest and profit this book is most highly commended to the attention of our readers.—*M.H.G.*

**Partial Dentures**—A System of Functional Restoration, by Ferdinand G. Neurohr, D.D.S., F.I.C.D., Attending Prosthodontist at the New York Polyclinic Medical School and Hospital; Special Lecturer in Partial Denture Prosthesis at Columbia University School of Dentistry. Large octavo, 244 pages, illustrated with 206 engravings. Published by Lea and Febiger, 600 S. Washington Square, Philadelphia, Pa., 1939. Cloth, $6.50, net.

The author is well known in the Eastern United States and was very well received when he demonstrated his system in the central states. "The object of this work is to convey the technique and the background of the spring wire lock system of attachment, conceived by the author ten years ago and developed by him into an effective system of restorative dentistry. The spring wire and insertion pin lock bridge was patented in 1930 in order to prevent its exploitation by commercial interests. Now that it has been developed, the author is glad to present it to the profession without restriction. Any dentist or any laboratory or any dental manufacturer supplying the dentist is entitled to use it. It is the author's general contribution to his profession and he offers not only his permission but his co-operation to assist dentists everywhere in incorporating this device into their practices.

"This system includes all cases from the single missing tooth up to full denture prosthesis. The complexity of partial denture design can be realized if we stop to consider the number of possible combinations of missing teeth in the human mouth. The author offers and explains a comprehensive classification for all partial dentures whether or not spring wire lock attachments are used. This most complicated problem is thus simplified to the point where they can almost be counted upon the fingers of the hands. He sets down basic principles which, when mastered, will guide the dentist to a sound method of partial denture design. This system has been tried in thousands of cases during the past ten years. While the future may bring forth improvements it is today thoroughly practical and fundamentally sound."

CONTENTS

*Part 1. Fundamentals of This System of Restoration*

What is an Adequate Restoration?—The Insertion Pin and Spring Wire Lock Restoration — Abutments Commonly Used — The Modified Thimble Jacket Crown as a Bridge Abutment—The Tilt-in and Non-tilt-in Appliances of This System.

*Part 2. Unilateral Partial Dentures or Bridgework Under This System*

The Tilt-in Bridge—The Non-tilt-in Bridge —The Insertion Post Bridge (Management of the Non-carious Abutment in This System) —The Distal Extension Bridge.

*Part 3. Bilateral Partial Dentures Under This System*

The Problem of Partial Denture Design—Original Classification and Design of Partial Dentures—The Non-tilt-in Partial Denture—The Tilt-in Partial Denture.

*Part 4. Mouth Reconstruction by This System and Repair of Cases*

An Original Procedure for the Replacement of Missing Teeth After Completion of Orthodontic Treatment — Rebasing — Repair of a Spring Wire Lock—Mouth Rehabilitation—Practical Cases.

The author and the publishers are to be highly complimented on this work. It should be read by anyone attempting "precision attachments" for the first time and will, of course, be of great benefit to those who have used the various forms of "precision attachments" in this important branch of prosthetic dentistry.—*Kenneth M. Johnson.*

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# CORRESPONDENCE

Calgary, Alberta,
June 20, 1939.

To the Editor, Journal of the C.D.A.:

In the last Dominion budget the tax was removed on dental instruments, (something that has been changed four times in the last ten years); and for the first time all scientific books are permitted to come into Canada free.

Our Society (local) as well as others in Canada and other professional societies have pressed for this matter for many years. The point is that I think these reductions should be drawn to the attention of the members of the profession as a whole.

Our local societies have personally written to Mr. Dunning to thank him and have received a very kind reply.

If some indication that these acts are appreciated is not given by the profession, I mean indications to the department of the government concerned, the first time some manufacturer applies for a duty on one dental instrument or text the whole duty will go on again, because if we do not care, why should the government concern itself, as it can always use a little extra revenue.

It is very difficult to tax one instrument and leave the others free, so the same situation occurs all over again.

ORMAN WHITMAN.

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# NEWS FROM THE PROVINCES

*QUEBEC:*

### Fifteenth Annual Fall Clinic

The program of the Fifteenth Annual Fall Clinic to be held under the auspices of the Montreal Dental Club on September 27-29 is rapidly taking shape and promises to equal, if not excel, past clinics.

Dr. Clarence Simpson, of St. Louis, Mo., will present a paper and conduct a registered clinic group on Radiography. Dr. Don E. Woodard, of Kansas City, and Dr. Carlisle C. Bastian, of New York City, will present similar programs on Minor Oral Surgery and Inlay Bridgework, and Porcelain Jackets respectively. Dr. G. R. Lundquist, of Chicago, Ill., Dr. W. V. McGilvra, of Worcester, Mass., Dr. Lowrie T. Porter, of New York City, and Dr. Gaylord J. James, of Cleveland, Ohio, will present illustrated papers on various dental subjects.

The table clinics will be presented entirely by members of the Ottawa Dental Society and will be one of the outstanding features of the Meeting.

A cordial invitation is extended to all dentists to attend the above three day meeting, and all those interested in receiving a preliminary program, which will be published September 1, please communicate with the undersigned.

DR. F. A. EDWARD, *Chairman of Publicity, Medical Arts Building, Montreal, Que.*

■

### Montreal Dental Club

June 14 was the date selected for this year's golf tournament of the Montreal Dental Club, and Summerlea Golf Club was the locale.

Dr. R. E. McMahon was declared champion after a four hole play-off with Dr. M

L. Donigan, both having turned in a gross score of 81. Dr. George Hale, with a gross 83-14-69 won the low net cup. Class B. championship was won by Dr. F. A. Edward. Other prize winners were as follows: Drs. J. W. Morton, A. L. Walsh, G. Crutchfield, E. Laurin, J. Common, A. W. Mitchell, F. W. Saunders, J. N. Blacklock, H. R. Cleveland, Paul Rowe, Paul Marchand, A. D. Crowe, A. D. Richardson, A. W. McClelland and R. Edminson.

Forty members remained for dinner at which the prizes were presented by Dr. Campbell Morris, President of the Club.

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### Montreal Dental Nurses' and Assistants' Association

The closing meeting of the Montreal Dental Nurses' and Assistants' Association was held on June 12. A report of the Ontario Dental Nurses Convention in Toronto was given by Miss M. Barber and Miss G. Robinson at which they gave a table clinic. At the close of the meeting a presentation was made to Miss M. MacIver, a past president of the Association and a bride-elect.

The Association will hold its Fifth Annual Convention on September 27-29 in conjunction with the Montreal Dental Club Fall Clinic. A very interesting program has been arranged with Dr. E. E. Steeves, of New York, and Professor W. D. Tait, of McGill University, as two of the outstanding speakers. For further information please communicate with:—

MISS GRACE ROBINSON, *Clinic Convener,*
2358 Madison Avenue, Montreal, Que.

## *ALBERTA:*

### Calgary Dental Society

Recently Dr. Roland D. Fisher, of Glendale, California, was the speaker at a special meeting of the Calgary Dental Society.

Dr. Fisher first discussed the large question of articulation of artificial teeth, and pointed out that "balanced occlusion" is a defective term for balanced articulation. He gave an extremely interesting and comprehensive review of the problem and the efforts that had been made to solve it.

He then presented a method of producing balanced articulation of a full denture against natural teeth, using a Hooper Duplicator. This was illustrated by some 800 feet of excellent moving picture film in colour, showing clearly the whole technique.

In the same way and with a larger colour film a technique of full upper and lower denture construction was demonstrated.

Calgary dentists were fortunate in that a holiday to the Canadian Rockies, between the Utah State meeting at Ogden, and the Washington State meeting at Wenatchee, brought Dr. Fisher to Calgary. They were also fortunate that the generosity and kindness of Dr. Fisher made possible for them a splendid presentation of this difficult subject. It was decidedly one of the highlights of the Calgary Society's meetings in recent years.

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### Edmonton Dental Society

On June 21 the Edmonton Dental Society held its Golf Field day at the Highland Course. This was followed by a dinner and cards at the Club House.

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### Recent Dental Graduates

Dr. Carman Johnson, Dr. Spencer Lea, and Dr. Richard Shillington, were graduated recently from the University of Alberta Dental School, and have commenced practice in the Southam Building, Calgary.

## *SASKATCHEWAN:*

### Highlights of the Saskatoon Dental Society

*October, 1938.*—Dr. Thompson, Dean of Arts and Science of the University of Saskatchewan, gave an interesting talk on Heredity and Genetics.

*November.*—Dr. J. M. MacDonell gave a résumé of the lecture on Heredity and Genetics given by Dr. Thompson at the last meeting.

*December.*—Dr. J. M. MacDonnell gave an outline of the work done by the Public Dental Health Committee.

*February, 1939.*—Discussion of letter sent in by the Central Council of Unemployed and Welfare Association, dealing with Dental Relief Services.

Clinic on Analgesia presented by Dr. J. N. Papove.

*March.*—Mr. H. Kilburn, of the Investors

Syndicate, gave an illustrated address on investment and the film: "Money Management."

*April.*—Dr. Ibberson showed an educational film provided by the Canadian Oral Hygiene Council. Dr. Thompson spoke briefly on the work of the Council. This was followed by the subject of Public Dental Health Clinics.

*May.*—Nominations of officers for the incoming year: President, Dr. C. L. Skinner; Vice-president, Dr. A. Salter; Secretary-Treasurer, Dr. J. N. Papove.

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### Dental Examinations

Three candidates wrote the Saskatchewan dental examinations conducted by the University of Saskatchewan in June.

## *MANITOBA:*

### Manitoba Dental Association

The annual business meeting of the Manitoba Association was held June 19 in the Medical Arts Building Club Rooms. Dr. A. E. Proctor presided and about 40 members were in attendance. The small number present was no doubt due to the lack of interest usually taken in strictly business meetings of one's own profession. A professional clinic seems to be required to interest an additional 40 or so which still leaves more than twice that number in the Winnipeg area who never turn out to any of the dental gatherings.

In addition to the reports of the officers of the Association, the chairmen of the committees and the delegates of the Association gave very full and interesting reports of the results of their labours for the good of the profession since the last annual meeting.

The chairmen of the committees are as follows: Educational, Dr. C. J. F. Jackson; Public Dental Health, Dr. W. W. Wright; City of Winnipeg Dental Relief, Dr. J. H. Greenfield; Delegate to the Canadian Dental Association, Dr. M. H. Garvin; Representative of the Association on the Dominion Dental Council, Dr. H. A. Croll, of Souris. Dr. A. E. Proctor, our president, is also chairman of the Travelling Dental Clinic Committee of the Canadian Foundation for Preventive Dentistry. These clinics are about 70 per cent self supporting and the balance of the funds needed to finance them is contributed by the Manitoba Dental Association, the Canadian Dental Hygiene Council, of which Dr. Harry S. Thomson is field-secretary, and the Manitoba Department of Health and Public Welfare. Dr. Proctor's report of the clinics conducted in 1938 showed that there had been 55 clinics held; that 20 Manitoba dentists had been employed and 88 schools had been looked after, requiring 250 clinic days and about 10,000 operations.

## *ONTARIO:*

### Grey, Bruce, and Dufferin Dental Society

The newly organized Grey, Bruce, and Dufferin Dental Society held a summer get-together meeting in Owen Sound on July 5, 1939.

On a motion brought in by Dr. H. G. Campbell, of Orangeville, and seconded by Dr. D. D. Campbell, of Paisley, the organization came into being and the provisional constitution was adopted at the business meetings.

The purpose of the organization is to promote a better understanding of the science of dentistry among the practitioners of the area involved, and to create the best possible feeling of goodwill, fellowship and a high ethical standard. The members shall consist of all duly qualified practitioners of the area, or adjacent areas, who wish to take advantage of the privileges of the Society.

It is the plan of the Society to hold three clinics in the fall months and two in the spring of each year, besides the annual get-together summer meeting, which meetings, it is hoped, all dentists in the area will endeavour to support.

The officers are as follows: Honorary Presidents, Drs. G. H. Campbell and G. H. Holmes; Past-President, Dr. N. K. Douglas; President, Dr. M. C. G. Bebee; Vice-president, Dr. Alex Campbell; Secretary-Treasurer, Dr. Wilson Bedell; Directors, Drs. E. E. Bruce, Harry Zinn, Harry Hartman, A. Dixon, and D. D. Campbell.

There were about forty present, including the following guests: Drs. A. D. A. Mason, Dean of the Faculty of Dentistry, University of Toronto, Frank Cole, Frank Martin, Irvin Ante, and Sidney Woollatt.

All took part in one or more of the sport activities planned by the Committee, and a

most successful day was concluded by a dinner held at the beautiful Owen Sound Golf and Country Club which is situated on the scenic Georgian Bay.

After dinner Dean Mason addressed the Society and in a very capable and illuminating discourse outlined some of the activities of the faculty during the year.

Following the Dean's address, Dr. G. H. Campbell and Dr. D. D. Campbell brought in the motion which formally organized the Society.

Dr. Sidney Woollatt and Colonel Norman Alexander very capably assisted in leading the singing.

Following the addresses and business, the prizes for the various sport events were presented. A cup for the best specimen fish caught during the day and which was donated by Dr. Bebee for annual competition, was won by Dr. Frank Martin, who proved his angling prowess by a very fine display of speckled trout which he had caught in the morning.

Dr. G. H. Campbell donated a beautiful electric clock for the best gross score in the golf competition. This was won by Dr. Joe Boyd, of Stratford.

Other prizes were very generously donated by the dental trade associations and the independent companies. The prize for the best net score went to Dean Mason and Colonel Alexander. The best gross in the first nine went to Dr. Woollatt, the best gross for the second nine to Dr. Paul, and the prizes for the birdies, to Dr. Hind and Dr. Legate.

Those who did not take part in the golf or the rod fishing, enjoyed trolling, and a cruise on the beautiful waters of Owen Sound and Georgian Bays, on the Seven Bells, which is a fine new addition to the pleasure craft of Owen Sound harbour.

Much credit, for the pleasure of the day, goes to the unselfish endeavours of those in the district who have taken such interest in the organization of the new Society and it is hoped that the worthy purposes of the organization will be realized and that it may have a very successful future.

WILSON BEDELL, *Secretary-Treasurer.*

**Toronto and District Golf Tournament**

The spring tournament was held on July 7 at Mississauga Golf Club. The officers in charge were: Drs. P. G. Anderson, President, Dwight Coons and Leon Hipwell. The game was splendidly arranged and very enjoyable in spite of the excessive heat. The prize winners follow:—

Low gross
- First Flight ..... Jack Trelford
- Second Flight ..... J. L. Chalmers
- Third Flight ..... T. H. Young

2nd low gross—
- First Flight ..... J. M. Sheldon, J. D. Evans
- Second Flight ..... George Sirrs
- Third Flight ..... T. R. Marshall

Low net—
- First Flight ..... F. W. Vivian
- Second Flight ..... C. T. Mason
- Third Flight ..... G. L. Frawley

2nd low net—
- First Flight ..... Harold Armstrong
- Second Flight ..... L. E. Riddol
- Third Flight ..... B. M. Ott

Best 9 holes—
- First Flight ..... Syd. Woollatt, Claude Nelson
- Second Flight ..... H. G. Lloyd, F. S. Loucks
- Third Flight ..... H. A. Swales

2nd best 9 holes—
- First Flight ..... T. W. Dawson
- Second Flight ..... Harvey Reid
- Third Flight ..... W. G. Trelford

High score of tournament, E. R. Boyle.

Concealed hole, Gordon Knapp.

Guest: Low gross, E. Allingham.
Low net, D. Rollaston.

District cup: West End Team, Jack Chalmers, Jack Trelford and Harry Bateman.

■

**Ontario Dental Nurses' and Assistants' Association**

Dental nurses and assistants from all over Ontario gathered at the Royal York Hotel, Toronto, for their Eighth Annual Convention, June 5-6. The sessions were officially opened on the Monday at 2 p.m. by the President, Miss Loretta McCaughey, R.N., of London. The morning was given over to Table Clinics—eighteen members contributing in this way, in conjunction with the dentists' demonstrations. A beautiful trophy, pre-

sented to the Association by Dr. Martha Law, Toronto, for the best clinic, was awarded to Miss Tomye Turner, Toronto, with Miss Irene Checkley, Toronto, a close second, and Miss Loretta McCaughey, London, third. Two visiting clinics were presented by the Montreal and Detroit Societies.

Forty-one very fine Dental Health Posters were entered in the poster competition. The cup was awarded to Miss Amy Ellison, of Toronto, with Miss Marion Brown, Windsor, second, and Miss Gladys Hill, Port Arthur, third.

The official opening greetings were brought by Dr. Stephen A. Moore, of London, President of the Canadian Dental Association; Dr. A. D. A. Mason, Dean of the Dental Faculty of the University of Toronto; and Dr. J. N. Stewart, of Hamilton, President of the Ontario Dental Association.

Guest speakers were Dr. Ray Edward Ramaker, of Missoula, Montana, U.S.A., Dr. W. Y. Hayden, London, and J. G. Dakins, of the British American Oil Company. Several members also presented papers.

The guest of honour this year was Mrs. Marie S. Shaw, of Atlanta, Georgia, President of the American Dental Assistants' Association and wife of Dr. Roy Shaw of that city. Mrs. Shaw endeared herself to the hearts of everyone and gave a delightful talk on "Friendship Insurance."

At the Luncheon, held in the Roof Garden, the special speaker was Miss Mabel Stoakley, of the Business and Professional Women's Club who spoke on "We Women" giving a splendid idea of what women are doing in the world today.

Miss Iverna M. Rae, of Hamilton, was voted the outstanding member of the year and awarded the "International Friendship" Achievement Trophy for 1939. This Cup was presented to the Association last year by Dr. G. Layton Grier, of Milford, Delaware, U.S.A., as a token of international friendship, to be awarded each year to the outstanding member.

At the election of officers, Dr. Martha Law acted as guest chairman and the following are the officers for the coming year: Past President, Miss Loretta McCaughey, of London; President, Mrs. Ferna Leech Cook, of Windsor; President-Elect, Miss Iverna M Rae, of Hamilton; Vice-president, Miss Tomye Turner, of Toronto; Recording-Secretary, Miss Jane Wells, of London; Correspondence-Secretary, Miss Jean Morrow, of Hamilton; Treasurer, Miss Mary Cooper, of Toronto; Permanent Executive Member, Mrs. Marion Edwards, of Toronto.

At the final meeting of the old and new executive Miss Iverna Rae was chosen as Membership Convener again and Mrs. Edwards, as Publicity Convener. It was decided that Mrs. Cook should represent the Ontario Association at the American Convention in Milwaukee in July. Others to attend the Milwaukee meeting will be Miss Loretta McCaughey, Miss Iverna Rae, and Mrs. Edwards, who is to present a paper at the open session.

*Windsor*—A meeting of the Essex County Dental Assistants was held in the Canada Building on June 12. The report of the year's activities was read, followed by the report of the five delegates sent to the Ontario Convention in Toronto.

Congratulations were extended to Mrs. Ferna Cook for her election to the office of President of the Ontario Association, and to Miss Marion Brown for her prize-winning poster.

Miss Janet Hamel and Miss Winnifred Grier were nominated for Vice-president of the Chapter, balloting to take place later. Miss Dorothy Scott, the new president, was in the chair and four new members were introduced.

The honour of "Associate Counsellor" was conferred on Miss Ferne Taylor in appreciation of her untiring services in the Chapter for several years.

*Hamilton*—The last meeting of the Hamilton Chapter was held in the Wentworth Arms Hotel, as a dinner meeting. Reports were read by the different officers.

Mr. Shepard, of the Hamilton Credit Bureau, explained the Credit System and then showed movies of his recent trip to Algonquin Park.

Miss Helen Fletcher was installed as the President for the coming year, as also were the other new officers.

MARION EDWARDS, *Publicity, Convener,*
488 Huron Street, Toronto.

# GENERAL NEWS

### Dominion Dental Council Examination Results

Listed below are the names of the dentists who were successful in passing the 1939 Dominion Dental Council Examinations:—

Dr. Lewis J. Archibald, Dr. Morris Bay, Dr. Geo. D. Campbell, Dr. Philip S. Christie, Dr. John M. Clarke, Dr. E. V. Dubiskey, Dr. F. S. W. Green, Dr. J. A. Greenfield, Dr. H. S. Grey, Dr. Abram Harder, Dr. Richard Hawrish, Dr. C. M. Johnson, Dr. W. A. Johnstone, Dr. Zech Kasloff, Dr. Fred Katz, Dr. P. F. Kitchen, Dr. C. Spencer Lea, Dr. James P. McGuigan, Dr. O. W. Mickleson, Dr. Jens Munthe, Dr. Jack Naimark, Dr. Wm. Orobko, Dr. James D. Purves, Dr. R. N. Reid, Dr. R. D. Reid, Dr. R. T. Shillington, Dr. H. R. Turner, Dr. E. Bruce Veitch, Dr. Bernhard Wall, Dr. P. H. Hervieux, Dr. S. C. Hodgson.

The above listed men are all graduates and are entitled to the Dominion Dental Council Certificates. At the present time many of them have received their certificates and the others will do so in the near future.

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### A.D.A. 1940 Dental Appointment Book Now Ready

Bound in black imitation leather, gold stamped with substantial sewed binding, this 7½ x 10¼ book lies flat when open and shows a full week's appointments at one glance.

In addition to the appointment pages it contains the following information: Biographical sketch of Chapin A. Harris; District Map of A.D.A.; Organization Chart; Code of Ethics; List of Certified Dental Materials; List of Books and Package Libraries; List of Dental Health Educational Material; Patient Recall Service and the Beneficial Circle Plan.

Prepared by the Bureau of Public Relations, A.D.A., 212 E. Superior Street, Chicago.

Price—$1.00. Individualized names stamped in gold on cover—25 cents extra.

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### Dr. Harry Thomson Honoured

At the recent meeting of the American College of Dentists held in Milwaukee, the degree of F.A.C.D. was conferred on Dr. Harry S. Thomson, of Toronto. He is receiving congratulations from his host of Canadian friends.

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### Incomes of Dentists

*by Herman Lasken, National Income Section, Division of Economic Research, United States Department of Commerce.*

This report is the result of a nation-wide survey made with the co-operation of the American Dental Association. It contains the most recent and authoritative data available on the subject of dental incomes. Average net income from professional services including professional salaries of practising dentists in the United States in 1937 was $2,914. This compares with averages of $4,273 in 1929 and $2,251 in 1933.

Incomes are analyzed from the standpoint of years of practice, type of work (non-salaried, part salaried or 100 per cent salaried) and by geographical location.—*Survey of Current Business—April* 1939—*A.D.A. Release.*

# IN MEMORIAM

**H. R. McCully,** of Amherst, Nova Scotia, aged 75, died June 21. He was a member of the Amherst town council for two terms and took a constant interest in civic affairs. He was a member of the Marshland Club.

Dr. McCully is survived by two daugters and one son.

**Sir Francis Dyke Acland,** of London, England, aged 65, died suddenly June 9. He was Chairman of the Dental Board of the United Kingdom. He had been a Member of Parliament with brief intervals from 1906 to the time of his death.

The dental profession has lost a great leader and a real friend.

## . . . SECTION FRANÇAISE . . .

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# *L'Articulation Temporo-Maxillaire et l'Orthodontie*

On apprend de Gregory que l'origine de l'articulation Temporo-Maxillaire remonte à la période Eocène de la vie humaine, chez des êtres préhistoriques que les Anglais appellent: "Tree-shrew", parce qu'ils vivaient dans les arbres et se nourrissaient d'herbages. Durant l'évolution de la figure à travers les âges, la branche montante du maxillaire inférieur s'allongeait pendant que son extrémité supérieure pressait graduellement les muscles contre l'os squamosa lequel plus tard est devenu l'os temporal. Une espèce de coussin vint s'interposer graduellement entre la tête de la branche montante et l'os squamosa pour devenir plus tard le ménisque articulaire. Comme résultat de cette croissance vers l'arrière, l'articulation temporo-maxillaire s'est formée graduellement pour atteindre la forme présente chez l'être humain.

Au premier abord, les deux articulations se trouvaient quelque peu rapprochées l'une de l'autre, mais à mesure que la branche s'allongeait, la boîte cranienne augmentait en largeur, écartant ainsi l'une de l'autre les deux fosses glénoïdes en même temps que les deux condyles. L'articulation primitive était très vaguement construite et les condyles avec leur fosse glénoïde avaient très peu de forme. Pendant que la dentition et l'occlusion évoluaient, l'articulation se transformait en rapport. Expliquons par une comparaison avec l'animal. Chez les animaux caractérisés par une occlusion de rangées de dents, le condyle et la fosse glénoïde étaient plus prononcés. Tandis que chez les animaux avec une occlusion de cuspides, on trouvait l'articulation influencée par la forme de ces cuspides; c'est-à-dire, à de longs cuspides correspondaient des cavités glénoïdes décidement concaves, contrairement aux cuspides courts, où elles prenaient une forme très peu concave et souvent même complètement

aplatie. De même, à un long diamètre antéro-postérieur des cuspides correspondaient un long diamètre bucco-lingual du condyle. Et l'articulation évoluait ainsi suivant ces mêmes rapports conventionnels. Il en était de même chez l'homme, la forme du condyle et de la fosse glénoïde a évolué avec l'occlusion caractéristique de cuspides.

### Embryologie de l'articulation

Malgré la forte controverse qui s'est soulevée au sujet de la croissance et du développement de l'articulation en Embryologie, nous pouvons dire que le maxillaire inférieur prend son origine dans le procès mandibulaire des arcs branchiaux. Vers le 40 ième jour de vie embryonaire, la formation de ces arcs commence, et c'est ensuite que l'articulation va se former. Chez les nouveaux-nés, le corps du maxillaire inférieur est proportionnellement plus petit que chez l'adulte, et les deux branches montantes sont pareillement plus courtes et s'unissent au corps du maxillaire en formant un angle beaucoup plus obtus. Alors la croissance et le développement des dentitions temporaire et permanente nécessitent une élongation du corps du maxillaire accompagnant la même croissance sur le maxillaire supérieur. Durant cette transformation, les branches montantes, sous l'action des besoins de la nature en voie de croissance, présenteront une élongation analogue, permettant ainsi aux condyles de demeurer dans leur fosse glénoïde respective. En même temps on remarque une diminution graduelle de l'ouverture de l'angle du maxillaire pour conserver un contact nécessaire entre les dentitions opposées. Si des dérangements glandulaires ont lieu durant cette croissance, elle en sera retardée ou accélérée engendrant une future malocclusion.

Si l'on en croit Hellman, il y a trois périodes distinctes dans la croissance de la branche montante du maxillaire: une première avant l'éruption des molaires de six ans, une seconde avant l'éruption des molaires de douze ans et une dernière avant l'éruption des troisièmes molaires. Cette croissance périodique accompagne naturellement la croissance du reste du maxillaire inférieur tout comme celle du maxillaire supérieur et de toute la tête. Il faut tenir compte de ces données durant le traitement des anomalies dentaires, parce qu'elles sont un aide pour prognatiser le succès du traitement. Tout dérangement qui surviendrait durant ces différentes périodes de croissance active pourrait entraîner une malocclusion, comme le ferait un dérangement endocrinien, par exemple. Tout de même on a constaté plusieurs cas de malocclusion diagnostiqués comme tels dans le cours de ces activités de croissance qui se sont corrigés d'eux-mêmes durant le reste de la croissance. Les cliniques d'Orthodontie possèdent de ces cas dans leurs records, ce qui vient certifier la vraisemblance de l'assertion d'Hellman.

### Anatomie de l'articulation

Par définition, l'articulation temporo-maxillaire, selon Rouvière, est située en-dessous de l'extrémité postérieure de l'arche zygomatique, en avant du méat auditif externe. Sa position peut être vérifiée en définissant le condyle de cette façon: lorsque la bouche est ouverte, le condyle est porté en dehors de la fosse mandibulaire ou cavité glénoïde sur l'éminence ou tubercule articulaire, on peut alors sentir sous le doigt une dépression dans la région de l'articulation. L'articulation temporo-maxillaire est formée par l'articulation de la tête de la branche montante du maxillaire inférieur avec la fosse et le tubercule articulaires que l'on nomme respectivement: cavité glénoïde et éminence articulaire de l'os temporal. La tête du condyle, de forme ellipsoïdale, a son grand axe sur un plan arrangé de telle façon que si l'on prolonge l'axe central de ces deux condyles, ils se rencontreront un peu en arrière du cou.

La surface articulaire de l'os temporal est concavo-convexe d'arrière en avant, s'étendant de la fissure squamo-tympanique (pétro-tympanique, gassérienne) jusqu'au

bord antérieur du tubercule. La section concave de cette surface articulaire est la cavité glénoïde, de forme ellipsoïdale dont le grand axe est parallèle au grand axe du condyle. Etant de forme analogue au condyle, elle peut le recevoir avec le maximum d'utilité. En avant de la fosse glénoïde, toujours sur la même surface articulaire du temporal, est l'éminence articulaire. L'articulation temporo-maxillaire est une synoviale possédant un ménisque articulaire entier de fibro-cartilage, lequel divise la cavité glénoïde en deux cavités ou compartiments bien définis: l'une supérieure, entre le ménisque et la surface articulaire, appelée Cavité Ménisco-temporale. L'autre inférieure, entre le ménisque et le condyle, appelée Cavité Ménisco-condylienne. En d'autres termes, l'articulation du condyle dans sa fosse glénoïde, n'est pas une articulation de contact immédiat de surfaces osseuses, puisque le condyle ne touche pas la voûte de la fosse, mais il y a un espace, une double cavité qui les en sépare, c'est-à-dire la cavité ménisco-temporale et la cavité ménisco-condylienne séparées par le ménisque. Le ménisque et les deux cavités permettent aux surfaces osseuses de glisser l'une sur l'autre librement dans les différents mouvements de l'articulation.

Un ligament capsulaire ou capsule vient envelopper toute l'articulation temporo-maxillaire. Son insertion supérieure se fait sur le pourtour de la surface articulaire de l'os temporal; au milieu, elle s'attache au ménisque et enfin, sa partie inférieure s'insère autour du cou du condyle. La capsule s'épaissit sur la surface externe pour former le ligament temporo-maxillaire qui part du tubercule zygomatique, se dirige en arrière pour s'insérer sur la surface latérale et le bord postérieur du cou du condyle. Deux autres ligaments également importants pour les mouvements et la stabilité de l'articulation ne doivent pas être omis: ils sont: les ligaments sphéno-maxillaire et stylo-maxillaire. Comme leur nom l'indique, on voit le premier s'étendre du sphénoïde et de la surface adjacente de la fissure gassérienne à l'épine de spix ou lingula et son pourtour. Il est situé mésialement au ligament capsulaire et en dedans de la branche montante du maxillaire. Au contraire, l'autre, le ligament stylo-maxillaire, est postérieur à la branche montante: c'est tout simplement un épaississement de fascia cervical allant de l'apophyse styloïde à la partie inférieure du bord postérieur de la branche montante. Les ligaments contrôlent l'étendue des mouvements normaux du condyle et par conséquent, du maxillaire inférieur. L'articulation est innervée par les branches auriculo-temporale et massetérique du nerf maxillaire inférieur.

Lorsque la bouche est fermée, le condyle repose sur la surface antérieure de la fosse glénoïde, juste en arrière du tubercule articulaire, et non pas sur la partie supérieure et centrale de la fosse. Il n'y a pas comme on l'a dit plus haut, contact immédiat entre les deux surfaces osseuses, le ménisque articulaire s'interpose comme moyen de protection aussi bien que d'aide pour les mouvements réguliers du condyle. La voûte de la fosse glénoïde étant formée d'une très mince couche osseuse peut très facilement être fracturée ou percée par le moindre traumatisme. Alors la Nature pour subvenir à ce risque garde le condyle un peu distant de cette portion de la fosse et y insère le ménisque articulaire. De même, la surface postérieure de la fosse est formée d'une mince couche recouvrant partiellement la trompe d'Eustache, le méat auditif et la fissure gassérienne laquelle contient entre autres le nerf tympanique. Ces structures délicates sont protégées par le fait que le condyle, dans une occlusion normale, s'en tient éloigné. Ici, le ménisque ne se rend pas à la partie postérieure de la fosse glénoïde mais seulement jusqu'aux trois quarts de la voûte.

Sous l'influence d'un traumatisme, qu'il soit d'origine extérieure, dentaire ou condylienne, lancera le condyle en haut ou en arrière causant ainsi, sur les surfaces adjacentes des troubles pathologiques souvent sérieux. On mentionne très souvent des cas de traumatisme dans la stratégie de l'articulation. Piersol dans son manuel

d'anatomie nous indique plusieurs exemples où une occlusion anormale traumatique a causé des troubles sérieux sur les méats auditifs externe et moyen.

La force du coup peut même fracturer la base du crâne et la plaque tympanique et entraîner un état pathologique au nerf tympanique dans la fissure gassérienne. Goodfriend nous mentionne la fréquence des troubles de l'oreille causés par le condyle dans une occlusion anormale qui peut avoir son origine dans une 'closed bite', la perte ou l'érosion des dents, les restaurations dentaires impropres, etc. Chacun sait que Lindlom, Resch, Wright, Riesner et plusieurs autres ont insisté sur ce syndrôme, lui donnant une importance primordiale dans un diagnostic consciencieux.

## Mouvements de l'articulation

Pour mieux comprendre l'occlusion et la position relative du condyle dans la fosse glénoïde, il est nécessaire de connaître les mouvements du condyle relativement aux mouvements du maxillaire inférieur. Tel qu'il a été dit plus haut, le ménisque divise l'articulation temporo-maxillaire en deux cavités bien définies; l'une supérieure, la cavité ménisco-temporale et l'autre inférieure au ménisque appelée cavité ménisco-condylienne. Les deux cavités sont maintenues en place par la capsule et les ligaments. Par suite de la présence du ménisque et des deux cavités, l'articulation temporo-maxillaire peut supporter deux mouvements distincts et composés; l'un, simple mouvement de glissement, où le condyle et le ménisque articulaire glissent sur l'éminence, dans la cavité supérieure seulement puisque l'inférieure forme ici un tout avec le condyle et le ménisque. L'autre un mouvement de l'espèce du joint universel comme on pourrait dire, en ce sens que le condyle roule à la manière d'un tel joint mais seulement antéro-postérieurement dans la surface concave du ménisque, mouvement qui se passe dans la cavité inférieure. Riesner appelle ces mouvements "Gliding-hinge movement", parce que d'une part le condyle peut rouler seul dans la ménisque qui reste stable ou bien il peut glisser avec le ménisque sur l'éminence articulaire. Ces deux mouvements se font séparément ou conjointement, ce qui les rend composés. Appliquons ces données de la dynamique de l'articulation à celle des mouvements du maxillaire inférieur.

Le maxillaire comme on le sait, se meut dans trois directions et possède en même temps trois mouvements composés dont l'ouverture et la fermeture, le mouvement antéro-postérieur et les mouvements de latéralité. Dans le simple mouvement d'ouverture, tel qu'il se produit dans la conversation, le condyle ne fait que rouler dans la surface concave du ménisque lequel demeure stable. Dans le mouvement composé d'ouverture comme celui de mastication, il y a deux mouvements simultanés à l'articulation correspondant au double mouvement de rotation et de translation du maxillaire inférieur. Le condyle tourne dans le ménisque et aussi glisse avec le ménisque sur la surface articulaire temporale. Des mouvements analogues mais en sens inverse se produisent durant le mouvement de fermeture composée du maxillaire, le condyle glisse avec le ménisque sur la surface articulaire en même temps qu'il tourne dans le ménisque.

Dans le second mouvement du maxillaire, c'est-à-dire le mouvement antéro-postérieur de protraction ou de rétraction, c'est seulement le mouvement de glissement du condyle avec le ménisque qui a lieu, en avant ou en arrière suivant le cas. Et finalement les mouvements de latéralité du maxillaire inférieur sont accompagnés de mouvements alternatifs dans l'articulation temporo-maxillaire. Pendant que le condyle d'un côté, se meut en glissant avec le ménisque sur la surface articulaire, celui de l'autre côté roule sur lui-même dans le ménisque stable. Et toujours rappelons-nous bien que le mouvement de rotation du condyle dans le ménisque se passe dans

la cavité ménisco-condylienne et que celui de translation du condyle avec le ménisque sur la surface articulaire, a lieu dans la cavité supérieure ménisco-temporale.

L'axe central de tous les mouvements de l'articulation temporo-maxillaire repose approximativement sur une ligne passant par le foramen mandibulaire sous l'épine de Spix, ne causant ainsi aucune tension sur les vaisseaux et les nerfs du maxillaire inférieur. Comme dans toute autre articulation du corps humain, les nerfs et vaisseaux des parties osseuses environnantes, entrent dans un os en un point portant le moins d'effort durant les différents mouvements de cette articulation, lequel point d'entrée réside sur l'axe central de tous les mouvements.

"Les mouvements du maxillaire inférieur, nous dit Williams, sont guidés par l'action des condyles dans l'articulation temporo-maxillaire en tous temps lorsque les dents ne sont pas en contact, mais dès qu'elles viennent en contact, ils sont entièrement subordonnés à l'action des cuspides des dents." En plus de cela, les ligaments contrôlent et guident le condyle dans l'articulation. La tension des ligaments est indispensable surtout dans les mouvements de l'articulation supérieure où le condyle glisse avec le ménisque sur la surface articulaire temporale et cette tension ne varie pas sur toute la durée des mouvements. Mais les ligaments ne préviennent pas complètement la possibilité de dislocation du condyle en avant de l'éminence articulaire. Puisque ce danger n'est éminent que dans les cas d'ouverture excessive de la bouche, tout de même la rotation du condyle dans le ménisque, simultanée au mouvement de glissement apporte un certain degré de tension préventive en fournissant la résistance nécessaire aux ligaments.

On peut maintenant établir en résumé, les constatations suivantes: lorsque la bouche est fermée ou au repos, le condyle repose en arrière de l'éminence articulaire ou plutôt sur la surface antérieure de la fosse glénoïde. Quand elle est à moitié ouverte, il repose sur l'angle interne ou postérieur de l'éminence. Enfin, lorsqu'elle est largement ouverte, le condyle repose sur l'éminence articulaire et non en avant comme on l'a souvent prétendu. Toute position du condyle dans sa cavité glénoïde différant en quoi que ce soit de ces positions de normalité, est elle-même anormale et par conséquent, il y a anomalie dentaire. Dans un diagnostic, quand on en est au stage de l'articulation temporo-maxillaire, il faut toujours avoir présent à la mémoire les différentes positions normales du condyle dans la cavité glénoïde durant l'ouverture totale ou partielle, et aussi la symétrie des deux condyles; le succès de l'intervention en dépendra.

## L'Articulation Temporo-maxillaire et l'Orthodontie

L'articulation temporo-maxillaire est naturellement en relation directe avec l'occlusion, c'est admis, il s'agit d'en faire l'application relativement à l'Orthodontie qui s'occupe entre autre chose de l'articulation temporo-maxillaire et de l'occlusion. Puisque la position du condyle dans sa fosse est influencée pour une large part par l'occlusion, elle sera anormale en autant que l'occlusion le sera ou deviendra malocclusion dentaire. Parmi les malocclusions qui nous intéressent ici, mentionnons les trois classes conventionnelles de Neutroclusion, Mesioclusion et Distoclusion, en plus des *'closed-bites'*, *'over-bites'*. etc, Dans chacun de ces cas, l'articulation temporo-maxillaire est plus ou moins influencée et peut avoir adopté des positions anormales, selon le cas considéré.

D'abord, la neutroclusion ou classe 1, est, d'après Angle, celle dans laquelle entrent tous les cas de malocclusion où l'arc dentaire inférieur et le corps du maxillaire inférieur est en relation mesio-distale normale à l'anatomie du crâne. A cause de restaurations dentaires impropres ou de la perte prématurée des dents temporaires, les molaires supérieures peuvent s'être déplacées mésialement à leur position normale

dans la tête. Cette neutroclusion ne semble pas ou à peu près pas influencer la position du condyle sur la surface articulaire temporale.

Dans la distoclusion ou classe 11, le maxillaire inférieur et l'arc dentaire inférieur sont situés distalement à la normalité dans leur relation avec le maxillaire et l'arc dentaire supérieurs. On y inclut deux divisions et deux subdivisions suivant la position du segment incisif et les variations de latéralité. Il est d'opinion générale que les molaires supérieures sont demeurées dans leur position normale respective, relativement à l'anatomie du crâne, et que l'anomalie existe dans le fait que les molaires inférieures ont reculé distalement à leur relation normale avec les molaires supérieures. La cause réside dans le retard de la croissance du maxillaire inférieur. Une forte controverse s'est élevée sur ce point et il n'en sera pas question; mais la théorie d'Oppenheim et de Broadbent est la plus acceptée, elle veut que le siège de la difformité dentaire réside dans le maxillaire inférieur et que la dentition inférieure est réellement en relation postérieure à la normalité par rapport à l'anatomie du crâne. Un manque de croissance antérieure dans le maxillaire supérieur a été observé à plusieurs reprises mais ce n'est pas général. "La location postérieure ou distale du maxillaire inférieur, nous dit Strang, due à la position distale du condyle dans la fosse mandibulaire, serait une impossibilité anatomique sans enfreindre sur le conduit auditif." C'est une théorie qui n'est pas universellement acceptée dans le monde de l'Orthodontie, et Rogers lui-même prétend le contraire en disant "qu'il a été difficile pour certains de croire que des changements dans les tissus apportés par une accélération dans le fonctionnement peuvent être produits jusqu'à un certain degré pour finalement apporter une correction complète de la distoclusion." Il semble difficile de comprendre que des changements doivent avoir lieu dans l'articulation temporomaxillaire durant la malocclusion comme durant l'intervention. Il ne s'agit que de localiser le changement; est-ce au condyle, est-ce à l'angle du maxillaire ou bien est-ce dans la cavité glénoïde? Le changement qui pourrait se produire dans la cavité glénoïde est si petit qu'il ne faut pas trop y compter, car la délicatesse des structures osseuses adjacentes à la surface postérieure de la cavité ne peut supporter de transformations, si petites soient-elles, sans causer d'état pathologique dans ces structures et leur contenu, il en a été question plus haut.

L'angle du maxillaire a sans doute subi un changement, il est devenu moins obtus que l'angle normal, les radiographies le prouvent facilement. Alors puisque l'angle a varié, le condyle a dû nécessairement varier sa position dans la fosse glénoïde, il serait difficile d'en concevoir autrement. Il a été déplacé mésialement à sa position normale. Dans le traitement des distoclusions, certains prétendent qu'il est préférable de déplacer distalement la dentition supérieure jusqu'à ce qu'il y ait un rapport normal avec la dentition inférieure, évitant ainsi toute variation instable dans la position du condyle. Au contraire, d'autres prétendent avec raison, qu'en avançant mésialement le maxillaire inférieur vers sa relation mésiodistale normale avec la dentition supérieure, le condyle est porté sur l'éminence articulaire. Alors, l'inclinaison postérieure de l'éminence aura tendance à déplacer graduellement le condyle en arrière dans sa fosse glénoïde en causant un changement au cou du condyle. Dans les deux cas il est sous-entendu que l'angle subit des changements, il faut l'ouvrir un peu pour le ramener à son ouverture normale.

Si le siège de la mésioclusion a été localisé dans le maxillaire inférieur pour cause de retard dans la croissance, alors ne serait-il pas rationnel de corriger l'anomalie là où elle siège? Pour cela, activons la croissance et avançons le maxillaire inférieur pour le ramener à sa position normale relativement au maxillaire supérieur qui a plus ou moins demeuré en place et qui a servi d'ancrage. Il y aura augmentation du degré d'ouverture de l'angle du maxillaire. Ce changement est réellement apparent et peut être vérifié en comparant les radiographies extraorales de toute la tête avant,

durant et après l'intervention. Mais personne ne peut nier la présence d'un changement simultané au condyle. Chacun a observé, au cours du traitement des distoclusions, le fait que les patients ont montré des occlusions doubles; ce qui expliquerait qu'il y a eu réellement changement au cou du condyle qui s'est recourbé vers l'arrière en même temps que l'angle du maxillaire est devenu plus obtus.

Au contraire, dans la mésioclusion, ou classe 111, le maxillaire inférieur est situé mésialement à sa relation normale avec le maxillaire supérieur. On attribue l'anomalie de classe 111 à un manque de développement du maxillaire supérieur et non un développement exagéré du maxillaire inférieur comme certains le prétendent. On remarque de même un élargissement dans la partie postérieure du maxillaire inférieur, et comme résultat les cuspides linguaux des molaires sont en occlusion avec la fosse centrale des molaires supérieures au lieu des cuspides buccaux comme le veut l'occlusion normale. Cette condition a tendance à causer de la rotation linguale des molaires mandibulaires. Souvent dans le traitement des mésioclusions le Chirurgien Ostéoplastique doit intervenir avant l'Orthodontiste.

Ici la question se pose encore: la mésioclusion influence-t-elle l'articulation temporo maxillaire? D'abord il s'agit de trouver le siège de l'anomalie de mésioclusion. Plusieurs avec Strang prétendent que le condyle n'est pas envoyé en avant et que la mésioclusion est due à la croissance excessive du corps et de la simphyse du maxillaire inférieur, à une diminution de la croissance verticale dans la région de l'angle et aussi à un retardement dans la croissance antérieure du maxillaire supérieur. Le condyle, à cause de l'anomalie, a tendance à se déplacer mésialement mais la résistance que lui offre l'éminence articulaire le fait pencher postérieurement: une radiographie montrera qu'il est situé en réalité plus en arrière du bord postérieur de la branche montante. La trajectoire condylienne devient par le fait même plus longue. Et comme preuve de ce déplacement postérieur du condyle, chacun a observé un malaise, souvent même une douleur dans la région de l'oreille, chez les cas de mésioclusion quand ils rétractent un peu le maxillaire inférieur. Ceci explique que le condyle est envoyé en arrière, un peu plus près de la face postérieure de la fosse qu'à l'état normal: la résistance de l'éminence articulaire à la tendance de déplacement antérieur du condyle a fait recourber le cou du condyle vers l'arrière.

On constate un changement très apparent dans la région de l'articulation et un agrandissement de l'ouverture de l'angle du maxillaire parce que la protraction du maxillaire inférieur dans la mésioclusion a rencontré de résistance à l'articulation. Chacun a sûrement vu des radiographies de mésioclusions montrant le déplacement postéro-supérieur du condyle et l'accroissement de l'angle, il y a souvent même des cas de mésioclusion où le condyle n'embarque même pas sur l'éminence articulaire quand la bouche est ouverte. Dans ces cas on constate un parcours excessif du condyle dans la direction de ses trajectoires. Le traitement habituel de mésioclusions consiste à activer la croissance retardée du maxillaire supérieur et amener en arrière le maxillaire inférieur à l'aide d'élastiques inter-maxillaires: on restorera le mieux possible la relation normale des deux maxillaires en même temps que le profil normal du patient. Chaque fois qu'on fait usage d'élastiques inter-maxillaires dans les cas de mésioclusion comme dans ceux des distoclusions, on doit s'attendre à quelques changements définis à l'articulation temporo-maxillaire et à l'angle du maxillaire.

Riesner classifie les différentes anomalies d'occlusion en quatre classes qui sont: *l'overbite* normale, l'occlusion bout à bout, *l'overbite* prononcée et la *closed bite. L'overbite* normale, où les bords incisifs des antérieures supérieures surplombent en partie les antérieures inférieures, montrent une courbe compensatrice bien connue accompagnée d'une relation normale du condyle à l'articulation. L'occlusion bout à bout, où le bord incisif des antérieures supérieures rencontre bout à bout celui des

antérieures inférieures, est caractérisée par un court support des molaires et par l'absence presque totale de la courbe sagittale. La surface articulaire et la fosse glénoïde sont aplanies et sont suivies dans ce changement par le condyle dont le cou est redressé et non incliné antérieurement comme dans la normalité. *L'overbite* profonde, où le bord incisif des antérieures inférieures touche la gencive linguale supérieure, ne montre aucune courbe compensatrice. L'éminence articulaire et le condyle sont très convexes et l'angle articulaire est très aigu: le cou du condyle est incliné antérieurement.

Dans les cas de *closed bites, overbite* profonde et même l'occlusion bout à bout, cas où la condition est surtout due à la perte du support dans la région des molaires, on voit la fosse glénoïde aplatie et plus profonde tandis que le condyle est aplati et érodé. Il est déplacé postéro-supérieurement dans la fosse, amenant ainsi un contact traumatique sur le conduit auditif et la fissure tympanique. Les structures qu'elles enveloppent, sous cette relation constamment rapprochée du condyle, prennent un état pathologique allant jusqu'à la perte totale ou partielle de l'audition à cause de l'infection dans le conduit auditif et d'un dérangement neuro-vasculaire. Goodfriend va même jusqu'à dire que l'infection des sinus maxillaires a souvent son origine dans une overbite profonde. Une preuve de l'irritation dans la région de l'oreille causée par le condyle dans un cas de *closed bite,* c'est que la douleur est soulagée lorsqu'on met un support épais dans la région des molaires pour ouvrir l'occlusion. Klaffenback insiste sur le fait que l'articulation temporo-maxillaire est un important facteur étiologique dans le cas de *closed bites*; c'est pourquoi on insiste dans le cours du traitement à remettre en position normale le condyle dans la fosse glénoïde et enrayer ainsi les troubles qu'il peut causer sur les régions sensibles environnantes. On apprend en Orthodontie Préventive que le manque d'harmonie et d'unité occlusales entre les deux arches dentaires est un facteur traumatique pour l'articulation temporo-maxillaire et son entourage. Il s'agira de prévenir cet état ou bien de l'enrayer s'il est déjà établi.

L'articulation temporo-maxillaire est parmi toutes les articulations du corps humain sans contredit celle qui a la plus grande variété de mouvements; cette variété sera réduite par la moindre obstruction dans son mécanisme compliqué amenant l'anormalité. Le but de l'intervention est de restorer autant que possible l'équilibre anatomique de la région, ce qui peut être obtenu soit par l'Orthodontie ou soit par la Chirurgie Ostéoplastique ou les deux ensemble. Les protractions ou rétractions exagérées sont des cas où l'intervention chirurgicale doit marcher de pair avec celle de l'Orthodontie et très souvent, il faudra en même temps une restauration par le Prothésiste pour arriver au fonctionnement normal de l'articulation, à la conformité fonctionnelle des arches dentaires et les conserver comme tels.

Personne ne doute de la délicatesse et de la complexité de l'articulation temporo-maxillaire et de son importance dans l'occlusion balancée. Disons avec Lord qu'un "grain de framboise entre les dents semble aussi gros qu'une noix, tout comme la moindre cendre dans l'oeil paraît aussi grosse qu'un morceau de charbon!" Ceci implique les rapports immédiats des dents et suggère le besoin de connaissances précises de tout ce qui s'y rapporte, comme par exemple: l'occlusion, l'articulation temporo-maxillaire, les muscles et les os, etc. Maves va jusqu'à dire "qu'une articulation temporo-maxillaire anormale entraîne une occlusion anormale, ce qui implique une mastication anormale et par conséquent un facteur étiologique dans les dérangements de nutrition du système." On pourrait croire cette assertion un peu osée, mais elle insiste tout de même sur l'importance d'une position exacte et normale du condyle dans sa cavité glénoïde en même temps qu'une occlusion aussi parfaite que possible.

## Resume

1.—L'articulation temporo-maxillaire a pris naissance durant la période Eocène de la vie humaine sur l'être appelé en Anglais; 'Tree-Shrew'. Elle évolua graduellement à travers des lignes définies et acceptées pour atteindre la forme présente chez l'être humain. Il y avait tout de même dès lors une relation rapprochée entre l'occlusion et l'articulation temporo-maxillaire.

2.—En Embryologie, des lignes plus définies et plus acceptées encore sont montrées dans la croissance et le développement de l'articulation. Dès le 40 ième jour de vie embryonnaire, l'ossification du maxillaire inférieur et de l'articulation est commencée, prenant naissance dans le procès mandibulaire des premiers arches branchiaux. Pendant que l'ossification avance, une croissance graduelle et marquée de l'articulation et des maxillaires se produit pour atteindre la forme présente. Si durant cette succession de périodes de croissance, des dérangements glandulaires de toutes sortes surviennent, ils retarderont ou accéléreront la croissance pour amener l'occlusion et l'articulation temporo-maxillaire à un futur état anormal ou pathologique qui requierrera l'intervention orthodontique, à moins que la nature la corrige d'elle-même.

3.—Quant à l'anatomie de l'articulation, son importance a été démontrée en définissant et décrivant les os intéressés, les ligaments et le ménisque, les tissus environnants et aussi la dynamique de l'articulation. La délicatesse des structures environnantes de l'articulation a été mise en vue pour que durant le diagnostic et l'intervention l'on soit capable de constater tout état pathologique dû à une anomalie dentaire. La dynamique compliquée de l'articulation a été étudiée, décrivant chaque mouvement simple et composé et leur relation rapprochée avec les mouvements du maxillaire inférieur au point de vue Orthodontie.

4.—Ensuite, l'articulation temporo-maxillaire est en relation directe avec l'Orthodontie. La neutroclusion n'influence pratiquement pas l'articulation. Dans la distoclusion, le condyle est incliné vers l'avant par suite de la réduction de l'ouverture de l'angle du maxillaire. La condition est due à un retard dans le développement du maxillaire inférieur. Dans le traitement il s'agira d'avancer le maxillaire inférieur pour le remettre en relation normale avec le maxillaire supérieur. L'angle sera agrandi et le condyle, recourbé vers l'arrière par suite de la résistance de l'éminence articulaire à son déplacement antérieur.

5.—La mésioclusion, au contraire, est due à une accélération dans le développement antérieur du maxillaire inférieur. L'angle est plus obtus que la normalité et le condyle est recourbé vers l'arrière par suite de la résistance de l'éminence à son déplacement antérieur: il est trop près de la surface postérieure de la fosse et cause ainsi des troubles dans les structures délicates environnantes. Le traitement consiste à reculer le maxillaire inférieur vers sa relation normale avec le supérieur, par l'intermédiaire d'élastiques inter-maxillaires. L'angle sera réduit, le condyle transporté un peu vers l'avant, l'éloignant ainsi de la surface postérieure de la fosse. A chaque fois que l'on fait usage d'élastiques inter-maxillaires dans le traitement des distoclusions ou des mésioclusions, on doit s'attendre à un changement à l'angle et au condyle: ce qui peut être vérifié par les radiographies.

6.—De même les anomalies d'occlusion, comme l'overbite, la closed-bite etc., ont leur influence sur l'articulation et l'angle du maxillaire, il faut en tenir compte dans l'intervention.


Dr. Louis Lepine.

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## *Histoire sans paroles (Lange)*

7ème scène

*Kafenchun Falls in Northern Nigeria, Africa.*
*—By courtesy of Evangelical Publishers.*

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# *Periodontal Health*

by W. Y. HAYDEN, D.D.S., London, Ontario.

WHEN an anthropologist—not a dentist — announces that more scientific dentistry alone can save the human race from extinction, it is time for dentists themselves to wake up. The eminent Professor Hooton of Harvard in his book "Apes, Men and Morons" seriously states that it is the dentists who must rescue civilization, but that they must first cease being "tinkers" and learn to be scientists. This declaration should direct attention to the supreme importance of dental and periodontal health. However it is periodontal health that is the more neglected by the profession. Indifference to periodontal health is the dentists' greatest offence. This charge applies to their not recognizing the symptoms and the seriousness of periodontal pathology, and also to their apathy towards the prevention of such lesions.

Periodontal health embraces the health of the gingivae, the periodontal membrane, and the alveolar bone. The gingivae should be firm, well stippled, of pink colour, and free from all inflammatory conditions, with the gingival crevice not exceeding two millimeters in depth at any point. The epithelium should be free from defects, in order that it may act as an efficient barrier to inroads of bacteria. With the rich gingival and mucosal blood supply, toxins once through the epithelium readily pass through the one cell thick capillary walls and enter the blood stream. The chief danger here lies in the crevicular epithelium, so that the shallower these crevices can be kept the better. The periodontal membrane should be intact, with its elastic fibres of good tone, to secure in the alveolus a safe cemento-periosteal attachment, to form a reliable buffer, or cushion, for the tooth, and, by the pulling action of the fibres, to stimulate the supporting bone. The alveolar bone should be of normal density and of physiologically normal height to give adequate support to the teeth: in later life the alveolar crests are not so high as in youth. With good circulation, free from anoxia, such a periodontium provides a firm and satisfactory foundation for the teeth and can in no way impair the health of the individual.

The importance of good periodontal health is apparent. Not only is it vital to the life of the teeth but to the general health as well. The maintenance of good periodontal health is of much more consequence than the preservation of the crowns of the teeth. Of what value is extensive dental restorative work to the patient if the foundation is defective? In all engineering undertakings the foundations are given first consideration. Then why should this principle not

apply to all dental work? There is no satisfaction either to the dentist or to the patient when beautifully filled teeth are prematurely lost through overlooked periodontal lesions. A tooth with a periodontal pocket is doomed if the pathosis and its cause be not corrected; its life will be very short; whereas, with proper treatment, that tooth may be made sound and probably capable of rendering efficient service the rest of the patient's life.

### Focal Infection

So much has been written on focal infection that it is readily admitted that disease in any part of the body may be of dental origin. The difficulty is to make the dentist realize his responsibility in detecting and reporting probable foci. No one else is trained for this work. The radiologist can help, and the physician is ready to make a guess at it, but, at present the dentist alone is in a position to diagnose thoroughly the condition of the teeth and periodontium—hence his great responsibility. The patient's health, his very life, may depend upon the detection by the dentist of some obscure lesion about the dental structures. To recognize and draw attention to these periodontal lesions in the early stages is every dentist's duty. Any one of them may be a potential focus of more or less serious infection.

### Examination

In making an examination, the charting of the cavities is but a small part of what should be recorded of the oral conditions. Loose teeth should be noted, teeth in malposition, any partly embedded, and any that move during occlusal action. Defective restorations, devitalized teeth, missing teeth, and teeth that are past putting into a healthy condition should also be charted. Any tenderness to digital pressure, or any soreness felt in closing the teeth should be noted. Any gingival hypertrophy, cyanosis, haemorrhage, oedema, suppuration, tumour, or other pathological condition (whether understood or not) should be entered. Above all, a probe must be passed around the neck of every tooth to ensure that there is no break in the periodontal attachment. If the probe penetrates more than two millimeters, there is pocket formation: any pockets found should be marked on the chart with their depth. Every one of these conditions is abnormal and is a possible menace to the health of the individual.

Would that standard dental practice might include the routine application of a working understanding of bacteriology!

When the periodontal pathosis is general, especially when there is a general alveolar atrophy in young patients, the cause is more apt to be systemic, whereas, if the lesions are just at particular points, the cause is more likely to be local.

Whether or not the practitioner cares to undertake the full treatment of the case, he must explain the conditions found and give the patient the opportunity as well as the responsibility of getting proper treatment somewhere.

### Prevention

Quite as essential as the recognition of periodontal pathosis is its prevention. It is the duty of each dentist to take every precaution in his daily operations to leave no dental condition that might act as a mechanical irritant to the tissues and be the possible cause of some future periodontal lesion. This necessitates precision in all work.

The mechanical irritant most general and most overlooked is subgingival calculus. If looked for, it can usually be found in adults. It is hard, rough, and infective, and sets up an inflammation, often with haemorrhage, of the gingivae, which if not corrected leads to the gradual destruction of the periodontal

membrane, with subsequent loss of alveolar bone from lack of function as well as from infective processes. This condition produces periodontal pockets, which readily harbour the ever-present oral flora, and, having all the requisites of anaerobic bacteria, encourages their rapid multiplication and absorption. Subgingival calculus must be carefully looked for with a fine explorer under the gingival margin, and then carefully and thoroughly removed.

### Occlusion

Mechanical, also, and associated with the other sources of periodontal disturbance, the second cause in importance is traumatogenic occlusion. When the forces of occlusion are not properly balanced—and in a multitude of cases they are not—then the leverage or strain is often too great for the supporting structures, unless they are able to adapt themselves by hyperplasia. The periodontal fibres are compressed at some points of the root and at other points stretched beyond the potency of their elasticity; they rupture—first the transeptal fibres and then the periodontal fibres proper—often forming a narrow, deep, tortuous pocket. The epithelium proliferates simultaneously with the pocket formation, but is usually of poor structure, often with breaks in its continuity. Usually calculus forms on the root surface as the pocket deepens. Traumatogenic occlusion causes the deeper pericemental structures to enlarge, assuming the form of a fibrillar connective tissue, and, accompanied by the destruction of the alveolar bone with the loss of the lamina dura, to induce the loosening of the tooth. With infiltration from gingival infection there is further bone destruction with its rapid conversion into infective granulation tissue.

### Relation to Operative Dentistry

Teeth that are missing should be correctly replaced to prevent the drifting, tipping, and elongating of others, with the consequent loss of occlusal harmony and of proper contacts. Prominent cusps that have a tendency to wedge the opposing teeth apart should be looked for and relieved. Whenever points of contact are lost, the intervening space permits the retention of shreds of food and the inevitable development of a pocket. Compensation should be made for uneven or excessive wear. Dental caries should, of course, receive proper attention.

Fillings and inlays should be most carefully inserted to insure periodontal health. Gold inlays necessitate meticulous attention to the wax pattern. Amalgam fillings demand the careful use of the matrix band in all proximal fillings, and thorough condensation in packing. All margins of all fillings should be flush with the enamel of the tooth, with no overlap. The contours of all fillings should be harmonious with the natural contours of the teeth involved. Proper contact points are necessary to prevent food impaction but they must not be too broad or they will close the natural embrasure. Particular care should be exercised with gingival margins, because any ledge left induces food impaction and pocket formation. Occlusal surfaces should be carefully carved in both gold and amalgam fillings, with marginal ridges that will not permit food to slide down into the interproximal spaces, with sulci of the natural depth, and with cusps of normal incline. Occlusal surfaces are often left too full, permitting the opposing teeth to strike too hard: this defect may cause an injury not only to the tooth improperly filled but also to the teeth opposing it. The continual jar injures the periodontal membrane, sometimes with soreness, and impairs the supporting structures; accompanied by unavoidable infection, such a tooth, in all probability, will eventually loosen and be lost. After every care has been taken

with the details of filling the teeth, the fillings should be well polished to prevent food adhering to them. Foresight and manipulative skill are essential throughout the procedure. Moreover fillings already in position should be examined for defects, and, if faulty, either replaced or trimmed into proper shape; this can be done with cross-cut burs, files, stones, and strips, followed by a final polishing.

The restoration of missing teeth demands very great care. The selection of the type of replacement to be used necessitates discretion and study. Fixed bridgework, removable bridgework, and partial dentures all have their proper places. Whatever kind of restoration is decided upon, undue strain must not be put upon any tooth; gingival irritation must be avoided; and no condition created that might cause impaction of food. Opening or closing the bite, however slightly, should be avoided, unless for some specific reason, and the artificial teeth should occlude in the several excursive movements of the mandible as well as in centric occlusion. Posterior artificial teeth should do their fair share of work in order not to put too great strain on the natural anteriors. In making an anterior upper bridge caution is necessary not to make the piece too thick, or it will cramp the lower incisors and cause injury. And how many upper second bicuspids are unnecessarily lost through carrying unaided a dummy first bicuspid! In making three-quarter abutments for cuspids the tooth should not be lengthened or the cusps of the posterior teeth may not meet in lateral occlusion. Accuracy in every detail seems to be the obligation of every dentist.

### Treatment

Once established, periodontal lesions should be corrected as soon as possible. All pockets must be eliminated and the cause of the disturbance removed. Each operator has to decide upon the mode of treatment according to his judgment and preference, whether it shall be conservative or radical. When the disease is diagnosed early it can be completely cured and usually all the teeth saved to function normally, with no risk to the patient's health. When the disease has not been detected until pockets have extended to bifurcations and even apices, such teeth have to be sacrificed and much more extensive treatment undertaken on the remainder. But even when much of the attachment has been lost, remarkably good and satisfactory results can be attained. However, absolute conscientiousness and thoroughness are imperative in all periodontal treatment to gain the desired objective. Subgingival scaling and occlusal adjustment call for extreme care and patience, but when these with other measures taken are properly performed, the reward is worth while; the pockets then yield favourably to treatment.

### Patient Instruction

Adequate instructions to the patient constitute one's final duty. He must be shown how to brush his teeth properly and how to massage the gingival tissues systematically, in order to maintain periodontal health. Otherwise one's work will be in vain. Periodical visits to the dentist should be recommended. Suggestions also as to diet are advisable. Diet has its influence on the periodontal tissues. Sufficient of the protective foods must be eaten. A diet deficient in vitamins, especially vitamins A, C and D, or deficient in mineral elements, particularly calcium and phosphorus, will have a deleterious effect. A sufficient amount of vitamin A is needed to maintain a normal actively-functioning epithelium (to prevent the ingress of infective organisms); a sufficient amount of vitamin C is necessary to maintain the

activity of the odontoblasts and to preserve the tone of the periodontal membrane; and sufficient vitamin D is required to maintain the calcium metabolism. The intelligent co-operation of the patient with the dentist in the persistent care of the periodontal tissues is imperative.

### Summary

1. There is an unfortunate neglect of periodontal pathosis by dentists.
2. Dentists have a grave responsibility in detecting and reporting possible foci of infection.
3. The health of the periodontium is of more importance than the preservation of the teeth.
4. An examination should include the recording of all abnormal conditions of the teeth and periodontium.
5. The prevention of lesions is quite as essential as the recognition of them. This necessitates the disclosure and thorough removal of all subgingival calculus, the correction of traumatogenic occlusion, exactness in the insertion of every filling, the careful choice and construction of the right type of replacement for missing teeth, and the elimination of every condition that might act as a mechanical irritant to the tissues.
6. Proper treatment should be advised when lesions develop, and, when diagnosed in time, the disease can be completely cured, with no risk to the patient's health.
7. Adequate instructions should be given to the patient.
8. Precision, patience, thoroughness and conscientiousness seem to be necessary attributes of the dentist.

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# *Nutrition and Tooth Decay* *

by FREDERICK F. TISDALL, M.D., F.R.C.P.(C.), Toronto, Ontario

THERE is no unanimity of opinion today on the cause of tooth decay. There are certain principles, however, with which nearly everyone agrees. Dental caries is a bacterial process, with the organisms getting into the tooth from the mouth. Theoretically, it is possible for the bacteria to get into the tooth through a congenital defect in the surface of the enamel. However, the most usually accepted theory is that the break in the enamel is produced by a local chemical reaction. With the assistance of a suitable medium, acid producing bacteria are kept in contact with a certain area of the teeth so that the acid produced by the bacteria eventually injures the surface of the enamel and so allows the bacteria to penetrate the enamel and get into the dentine.

Certain workers regard the enamel of the tooth as an inert substance and believe that the whole question of tooth decay depends on the continued presence of the acid-producing organisms. Other workers believe that the whole tooth is to be regarded as a living structure and that its resistance to bacterial invasion will vary with the health of the body as a whole. It is, of course, possible that as the health of the body varies, the character of the saliva may vary and thus have a distinct effect on the presence or absence of acid-producing bacteria in the mouth. A thick, ropy saliva will not mechanically be as effective in cleaning the teeth as a normal saliva. Also the saliva may vary in its bactericidal action.

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* Read before the Section of Paediatrics, Academy of Medicine, Toronto, November 17, 1938.

The author leans to the view that tooth decay is the result of many factors, not only the presence of acid-producing organisms in the mouth but also the health of the individual as a whole. Also —in self-defence for many of our failures —we speak of a hereditary factor.

Patients referred by the dentist to the physician on account of tooth decay must naturally be carefully examined to determine the general health of the individual. Not infrequently foci of infection or other abnormalities are found which have a detrimental effect on the health of the patient. These should be corrected.

In regard to the food intake of the patient, the following procedure has been used by the author for the past two or three years and found very satisfactory. At the first visit there is absolutely no discussion of the food habits of the patient. The parent of the patient, or the patient himself, is simply requested to keep an absolutely accurate record of everything consumed for the succeeding seven days. One has to be careful to explain to the patient that this must include everything consumed. For instance, reports will be returned in which it is stated that the patient had for breakfast 'some cereal'. No mention is made of sugar. On questioning it will be found that the patient had one or two teaspoonfuls of sugar on the cereal. Also it is essential for the patient to indicate in some manner the amount of each food consumed—such as 1 slice of bread or 2 slices of bread. Food eaten between meals must be carefully recorded. At the end of the week, the diet record is brought in by the patient and at the physician's leisure the diet list is carefully analyzed to note its defects, if any. This does not require a careful mathematical calculation of the food intake. Almost at a glance one can see whether or not there is any obvious defect. For instance, if the patient is a child he should be consuming approximately 1½ pints of milk daily if he is going to obtain a sufficient calcium intake. An adult should be consuming at least one-half pint of milk a day. Two liberal helpings of vegetables a day, in addition to potatoes, is desirable. A lack of eggs is a common defect, and of course with the older child or adult many do not take vitamin D. Any excess of carbohydrates should also be noted.

It must be kept in mind that for some reason many patients are more susceptible to tooth decay than others. However, when tooth decay is present it is desirable to make the diet as nearly perfect as possible. A survey of a number of diets from patients with tooth decay indicates that the most frequent defect is an excess of carbohydrates and a low intake of vegetables. Although eggs probably are the most valuable single food after milk, very few patients consume an average of one egg a day. The surprising result was also observed that in nearly every instance the patient was taking a liberal amount of raw fruit. Frequently, but not invariably, vitamin D was not included in the dietary routine.

After the diet has been analyzed it is essential to write out for the patient the defects observed and specific instructions about the food intake, such as the amount of milk to be consumed, an egg a day, two vegetables besides potatoes, some raw fruit, and some form of vitamin D. In addition, it is advisable to omit, as far as possible, sugars from the diet, and advisable to cut down the bread intake to one slice with each meal. If additional calories are required, one need not hesitate to increase the amount of potato consumed. When these changes are made in the diets of patients with severe tooth decay it almost invariably results in a marked reduction in the amount of tooth decay.

# *President's Address**
# *Western Canada Dental Society Convention*

by H. J. MERKELEY, M.D.S., Winnipeg, Manitoba.

IT is inevitable that your chairman should deliver an address at this juncture. The task of extending a welcome to so many of our members this morning is a pleasant one indeed, as we are, for the most part, but welcoming old friends and will all, in the next three days, renew close friendships and recall many pleasant and happy hours spent together. I wish to particularly welcome you who have travelled great distances to receive the inspiration and instruction offered. "It is a significant fact that the members of our profession who comprehend the value of these meetings are also, as a direct effect of the mental and professional improvement they experience, financially able and very eager to attend." They feel, no doubt, that they would not be keeping faith with their patients were they to miss the enthusiasm, the inspiration of personal contact and the instruction it is their privilege to enjoy.

For almost forty years it has been a biennial pleasure for the president to welcome outstanding clinicians and distinguished guest speakers. These have always given freely of their time to discuss with us the results of their research work and the new aspects and implications of dental practice, as well as to bring to us the latest techniques, which have been evolved by the advance of our art and science.

It is indeed interesting to check our records and therein trace the advances made; but somehow as certain problems have been solved, others, with wider and more intricate complications, have arisen, so that today the matters of prevention, and dental public health, demand our chief thought and consideration.

In the field of prevention the question of diet, both pre and post-natal seems to offer inducements for further investigation. On the other hand it has come to be generally recognized "that there is rarely a constitutional disease, whether it is one of the blood or of the degenerative, metabolic, or nutritional type, where there is no abnormality of some kind or other about the oral tissues." Thus it may well be necessary, in the not too distant future, to advance the dental curriculum still further to include more work along the lines of bio-chemistry, physiology, pathology and kindred studies.

This will, of course, tend to increase costs of dental service, and so further complicate the solution of another problem which we now face.

Clinics have been established for those on relief, but border line cases and those in the lower income brackets who are in most cases really more deserving are receiving little if any help, and it is a sad commentary on our social arrangements when we find those who have frankly cast themselves on the state, thus receiving more and better dental service, than those who have sufficient self-respect to struggle on unassisted.

It would seem the duty of our profession to explore all possible avenues looking towards the reduction in costs of dental service. In this connection the cost of dental supplies and equipment could be investigated with benefit, and I

* Presented at Winnipeg, May 29, 1939.

would suggest that a committee of active members should be appointed to report to us two years hence.

The socialization of our service has been suggested, and many plans have been discussed, the chief aim being to bring dental health service to a much larger group of our citizens. Some form of health insurance on a compulsory basis seems to offer hope and its possibilities should be further explored.

It has been suggested by some of our leaders that dental practice be conducted as a series of group clinics, wherein, one who has received an extensive dental-medical education would diagnose all cases coming to the clinic, do all surgical work, and then supervise the restorative work needed. The purely mechanical part such as the prosthetic, the crown and bridge work and the fillings would, of course, be done by technicians in the clinic. It has been suggested that this would reduce the cost of dentistry, as each operator employed need have only a limited specialized education. The benefits to be derived from this procedure may be questionable, yet there is much to commend it as a means of extending dental health to the masses. The whole plan is, however, the antithesis of present practice where the pride and satisfaction in the conduct of a family practice offers much in the way of compensation for arduous hours spent at the chair in striving for the ideal. New Zealand and Russia have both tried and still use some modification of the partly trained dental operator plan; New Zealand, on the one hand, to carry dentistry to the school children; Russia, on the other hand, to make the human being a more efficient machine.

Some variation of this plan may be demanded by the public for those in the lowest income brackets when the dental health propaganda of our industrious dental publicizers becomes effective, that is, the public may take us seriously. We may not then be able to stop at the legalizing of dental hygienists, but will, in all probability, be forced to a far greater liberalizing of the dental laws, so that dentistry can be carried to the masses.

Our profession in the Canadian West can well be proud of its efforts to carry dental health to the far corners of its country's wide expanse, as well as to the under-privileged children, and we owe a debt to Dr. Harry Thomson, which we are glad to acknowledge, for the leadership he has given to us in these matters.

The future, in certain respects, may not look too bright, but so long as each maintains his professional viewpoints and standards, we can face that future with the full assurance that we will be worthy successors of our professional forbears who strove so nobly and builded so well.

"Wide horizons tend to enlarge the mind; limited horizons, on the contrary, circumscribe it. Stagnant water is not inclined to flow; the wind, instead of rousing it to life, simply irritates it. It is the hatred of narrow minds for liberal ideas that fetters the march of progress."

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*Just as natural and appetizing foods are better for us than artificial and doctored foods, so natural and enjoyable forms of exercise are better for us in every way than drill and physical jerks. Walking and hiking, outdoor games of all sorts—playing them ourselves and not watching others play them—bicycling, swimming, gardening, digging in allotments, things that bring us once more into contact with mother earth, the sun, the wind and even the rain; all these make for health more readily and more enjoyably than anything we do at the bidding of the drill sergeant or the gymnasium instructor. "Exercise without exercises" would not be a bad slogan in this matter.—Lord Horder, Physician in Ordinary to the King, in the "Listener", per Medley.*

# A Dental Health Service for School Children*

by W. L. WHITELOCK, D.D.S., Hamilton, Ontario, Director of Dental Services.

THE dental services in the schools come under the Board of Health, not the Board of Education. We are a definite division of the Department of Health, under the jurisdiction of Dr. Roberts, our Medical Officer of Health, and his assistant Dr. Davey. I cannot see how a dental service which considers itself a thing apart from medical services, can hope to attain success. On the other hand, however, no health service today could be considered up to date or efficient which did not include a definite division of dentistry. These two services and professions must work in harmony and co-operate for the well-being and future health happiness of our school children.

Hamilton is a city of approximately 155,000 people, with about 30,000 public and separate school children. We have on our dental staff eight half-time operators, four full-time dental assistants, one extraction specialist operating one-half day a week, and a director. This staff operates in six centres distributed throughout the city. We are, at the moment, making preparations to establish a seventh centre.

## Portable Unit

I wish to say something about our portable unit as I believe this is a very worthwhile venture in urban centres. We should try to make it as easy as possible for the child to get to the dentist. The portable unit does just this. We move it into areas where the school population does not require a full time clinic. It remains for one, two or three months, according to the demand, then moves on to a similar area in another part of the city. We bring the dentist to the children. This too has been of great help in our educational work. The children soon know when the dentist is coming to their school, and they are becoming more and more tooth conscious. It reduces considerably our broken appointments, and certainly cuts to a minimum lost academic time.

## Family Dentist

I am of the opinion that all children should be attended by the family dentist, whenever family finances will permit. I believe the child should be brought up to depend upon his family dentist, and not upon a clinic, if for no other reason than that the services of the family dentist may go on indefinitely, while after a time the clinic service is denied the child, and he is allowed to drift. We should, by educational efforts, encourage our children to go to the family dentist. This method can be spoken of as the "Teacher, Parent, Dentist" scheme. We, in Hamilton, have come to realize that this business of teaching the children how to care for their teeth, encouraging them to go regularly to their dentist, trying to make them more and more tooth conscious, is definitely a duty of the dental division. We accept the responsibility and this matter of Dental Health Education has become a major part of our work. Hardly a day goes by, but some member of our staff is busy, for at least part of his time, on lecture duty in schools. Each operator has, for his use,

* Read before the Ontario Education Association in convention in Toronto, April 5, 1939.

our projector, screen, films, etc., one-half day of every week. He makes his own arrangements with the school principal. We know from reports from parents and dentists, and from our survey records, that our educational effort is paying dividends in a deeper consciousness of the value of dental health.

### Three Groups

Children in our schools fall naturally into three groups; those whose parents are able to take care of their medical and dental needs; those on the border line or near relief category; and those who are unfortunately on relief. Our dental division does not work for those who are able to retain a private dentist. Those on relief are given free treatment without question. The second group, those near relief, are compelled to make application for treatment for their children through a form supplied, which is really a financial statement of their earnings and expenditures. These statements are checked and the children are accordingly accepted or rejected. If they are accepted, they are given free treatment, but they are asked to contribute a small amount towards a Dental Health Educational Fund. When the appointment card is handed to the child by the health nurse, or teacher, a little white slip is attached. It reads:—

> It is requested that this child bring a minimum of twenty-five cents on the first visit to the dental clinic. This must not be considered a charge for services, although it assures your child of dental attention until the next dental survey. It will be your contribution towards a dental education campaign being carried on among school children.

This little scheme has been a real success. The moneys collected go to make up a fund which is definitely ear-marked for dental health educational purposes only. From it we are able to buy films, posters, buttons, tooth brushes, or anything which, in our opinion, has a dental health educational value.

### Health Education

In our talks to the children and by our pictures we point out repeatedly those habits which make for prevention. Periodic visits to the dentist, correct eating, correct selection of foods, correct and strenuous brushing are emphasized as aids to better dental health. Teachers today are being asked to take a much greater interest in the health of school children. Health education is, at last, beginning to demand its proper place on the curriculum of our schools. The time has passed when the entire education of the child is directed wholly upon the mental development, while their physical welfare is neglected. The dental education of the child, making him tooth conscious, would be, I should say, the easiest to teach and undoubtedly the most profitable. All the advantages and rewards of a clean, healthy mouth, brought about by systematic care, should be pointed out. The deeper the impressions we make upon the mind when it is in its most receptive stage, the easier it will be to lay the foundations for a greater dental health consciousness, and it will enable us to predict what will likely be the condition of that mouth at maturity. To that extent the dental health of the child rests with us. Clean, strong, healthy teeth are an irresistible asset in any persons stock in trade, and undoubtedly are important qualifications for the attainment of any sphere in life, to which a girl or boy may aspire.

### Nutrition

In speaking about nutrition milk naturally becomes an important factor. Every authority on nutrition or diet places milk as the ideal food for a growing child.

W. L. WHITELOCK

Some time ago, in Hamilton, a joint committee was appointed with myself as chairman, and composed of members of the Board of Education and the Board of Health. Our duty was to make arrangements with the milk distributors for a sanitary and more appetizing distribution of milk in our schools. The result of our conferences was this: The distributors agreed to place electric coolers in every school. They agreed to supply special tops and straws. They produced special school milk tickets, which were sold, not to the children in the school, but to the mothers in the home. They are sold by any milk salesman whether or not his dairy supplies the milk to the school. This was at no cost to the Board of Education. The tickets were sold at five for 15c, which would assure a child of one-half pint each day for the school week. Needless to say the consumption of milk jumped considerably. In one school, where a test was made, the number of half pints per day went from approximately 40 to 400. This plan relieves the principal of the responsibility of handling money for milk, and assures us of a continuous sanitary supply, at proper temperature all through the term, even into the hot weather. Those undernourished children who receive free milk, obtain their supply from the same machine, the only difference being that they receive their tickets, which have a small, inconspicuous mark, from the teacher.

### Program

We must have a well-organized, supervised program of dental health education. We keep records from year to year of the condition of the mouths of all our school children, the family dentist group as well as our clinic groups, as naturally they influence, to a great extent, our record and reflect favourably or otherwise upon our department. The family dentist group constitutes by far the largest group, so we strive by educa-

tional means to encourage them to seek attention. Next in importance would be the dental survey of all school age children at least once a year. We do not attempt to chart each mouth, for one reason that it would take too long, and for another that I have yet to be convinced that it would be worth the time spent. Every one of these children when they seek treatment, no matter where they go, must be re-examined. We do however, have a definite system of marking. We classify the mouths by a number, according to the condition which, in our opinion, is in most urgent need of attention. This tells us which patients to bring into our clinics first, if they are clinic patients. It tells us whether the defects are in the permanent or deciduous teeth. I believe a good yard stick with which to measure the efficiency of any public dental service would be in ratio to the number of lost first permanent molars among school children.

The next step is that a dental report (blue card) from our survey findings must be sent home to the parents of any child with dental defects, even if they may be considered of a minor nature. The parent is not told what is wrong in the mouth, but is asked to take the child to the family dentist immediately. The reason for this is, that we have no desire to embarrass, in any way, the family dentist. However, on the report card, which the child brings to the dentist, is our classification number, and every dentist in Hamilton has been sent a copy of our code of classification. When we find the permanent teeth badly broken down, an additional warning is sent home to the parents by means of a white slip attached to the report card, which reads as follows:

> May I bring to your attention the very serious condition of your child's teeth. They are in urgent need of attention and I would suggest that you have the child visit your dentist immediately.

The next step is to establish sufficient clinics to take care of children who would otherwise be neglected because of financial inability. You have seen a picture of these clinics in operation.

The next point is the invaluable services of the school health nurses. We depend upon them to send out our dental report cards. We expect them to discover children who are unable to go to a family dentist, and to have the dental application form completed by these parents. We depend upon them to continually, throughout the year, follow up those children who have not been to the dentist. They are our contact between the patient and the clinic. I don't know how we could get along without them. This is another example of the need of understanding and co-operation between the medical and dental divisions of health. To a lesser degree we depend upon the grade teachers to see to it that the child keeps his or her dental appointments.

The last point, but not necessarily the least important, is that we must have the confidence and co-operation of the members of the dental profession itself. We want them to feel that the work we do is not taken from them. We believe and expect that they will not sign the patient's report card until they have completed the necessary service. We depend upon them to augment our educational program in their own offices.

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*If you, or I, can ultimately give to the world a single volume, or line, or thought which will enable our fellow men and women to enjoy life a little more fully, or endure it a little more easily, then we shall not altogether have laboured in vain.—Ian Hay.*

# *Pedodontic Psychology**

by GEORGE E. MORGAN, D.D.S., F.A.C.D., Milwaukee, Wisconsin.

THE pedodontic application of the principles of child psychology differs from the ordinary problems of child behaviourism in that it depends not only upon an understanding of the child's personality, but also upon a careful analysis of his acquired environmental attitudes toward dentistry. The task of motivating a child's attitude towards dental health and dental health services should be the common responsibility of humanity. But that is not the case, because people do not possess wholesome opinions of dental health practices. If we could always remember that "when dentists successfully serve children, they are handling human souls, preserving, protecting and encouraging boys and girls—the finest things on man's earth! When they serve children their imaginations look out upon dozens of youthful beings and see in them, not so many mouths with teeth to be filled, occlusions and dento-facial deformities to be corrected, with a pay check at the end of the services, but rather dozens of human possibilities, dozens of human challenges, each child possessing something different from any other child in the world." ([1])

A dental survey of school children, between the ages of six and fourteen, made in twenty-six states by the United States Public Health Service in conjunction with the American Dental Association ([2]) revealed that approximately 97% of the school children were in need of dental attention. This alarming situation is not due, primarily, to the economic status of the country, but rather to the general psychological fear associated with dentistry and dental health workers.

Normally, the child has only three recognized behaviour patterns at birth. This instinctive behaviourism is expressed in the following emotions: "(1) fear—produced by a sudden removal of support or loud noise; (2) rage—produced by hampering the infant's movements; and (3) love—produced by stroking the skin, tickling, gentle rocking, patting and turning the child on his stomach." ([3]) Therefore, *fears toward dentistry are not natural, but acquired.* They are usually the outcome of conditioning the child's first impressions and attitudes in the home which later are modified by bits of related or actual experience. The parents' reaction is often the child's greatest barrier because the responsibility for the child's dental health and happiness is still the privilege of the home.

## Inhibitions

Unthinking parents and friends implant inhibitions in children by talking about the horrors of dental services rather than stressing the benefits of dental health. When children misbehave, some adults use the dentist as a disciplinary weapon by threatening to take the child to him for treatment. Such reasoning is contrary to all principles of child psychology because it motivates a negative response towards dentistry and warps the child's perspective for healthful living. Furthermore, it is natural for children to entrust their confidence to those near and dear to them; and while the practices of child health are matters

1. "When I Serve Children" quoted in *Review of Dentistry for Children,* January, 1938, P. 21.
2. United States Public Health Service, *Public Health Bulletin No. 226, Dental Survey of School Children,* U.S. Treasury Dept., Washington, D.C., May, 1936.
3. John J. Morgan, *Child Psychology,* pp. 52-53.

* Read before the Academy of Dentistry, Toronto, Ontario, January 12, 1939.

of common knowledge to parents, it takes more than common knowledge to keep the child's adjustments toward dentistry healthful. Therefore, it should be the ultimate aim of parents and the dental profession to bring out the best that is in a child in order that he can intelligently accept dental services as a gift to civilization because the fear states during childhood, the preparatory period of life, are the forerunners of later adult fears.

In considering pedodontic psychology, we must understand that there are two classes of children according to intelligence: the normal and the abnormal. While dentistry is necessary for both classes, it is the normal child in whom we are primarily interested as he presents the problem in the private dental office. Since mentally defective or abnormal children receive institutional dental care, the psychological management of these children will not be covered in this discussion.

### Behaviour Patterns

The most successful method for studying the behaviour patterns of children in the pedodontic office is by comparative observation, as emotions are used largely for adjustment devices and are expressed in the form of moods or attitudes. As the child grows older he becomes fully versed in adopting certain forms of behaviourism in order to influence others, especially his parents. His reasoning powers tell him that tactics which bring results at home will also work with the dentist.

Jordon ([4]), Hogeboom ([5]), and McBride ([6]) classify children into many emotional personality patterns, but observation and experience lead me to believe that only three types of children present a problem to the dentist from the standpoint of management in the private dental office.

### The Timid Child

First, the timid type or the child who demonstrates no perceptible initiative, cannot play successfully with other children and finds it difficult to amuse himself when left alone. This type is usually inactive in the dental office, sits quietly near his mother and looks to her for entertainment, is a mamma's child and portrays no confidence in himself. His timidity may be due to several reasons: (a) he may be an only child; (b) he may receive too much attention at home and be the typical baby; (c) he may be a sickly child with the result that he has had too many unpleasant experiences with physicians, nurses, and hospitals; and (d) he may be the undernourished child often referred to by his mother as a "poor eater". For example:

Jimmy, aged 3, has never received dental treatment and his mother expressed concern about his reactions to dentistry. Jimmy is an only child and has been accustomed to the individual attentions of his mother for companionship and fun. The mother has a decided inferiority complex regarding her mouth and teeth. She is greatly concerned about her child's dental health. Jimmy quickly senses his mother's attitude and projects his feelings through timidity.

Unfortunately, this handicap at the initial visit instils a fear toward any new experience.

### The Bully Type

Second, the bully type or child who possesses an overabundance of internal drive. He is usually the inveterate bluffer. Outwardly, he appears courageous and puts forth great effort to impress his

4. Evangeline M. Jordon, *Operative Dentistry for Children,* pp. 4-5.
5. Floyde E. Hogeboom, *Practical Pedodontia or Juvenile Operative Dentistry and Public Health Dentistry,* 4th ed., pp. 21-35.
6. Walter C. McBride, *Juvenile Dentistry,* 2nd ed., pp. 41-49.

importance upon others. In the dental office, he is active, amuses himself, and displays an unconscious attitude to his surroundings. When invited into the operating room he quickly walks in, seats himself in the chair, and by his actions almost says "I am not afraid of you, but you better be of me." His blustery manner is an outward defense mechanism and may be due to several reasons: (a) he may have had an unpleasant dental experience; (b) he may be accustomed to having his own way; and (c) he may be the victim of too high expectations in his home and school environment and as a result has acquired a grandiose type of personality. For example:

Roland, aged 7, has the past history of overpowering all dental health workers. His parents have punished him for his previous misbehaviour in the dental office, but after each unpleasant experience, they take Roland to a different dentist. He has succeeded in bluffing his parents, his teachers, and his playmates, and he certainly will try to outwit every new significant contact.

### The Bashful Child

Third, the shy or bashful child who suffers from lack of courage. This type becomes afraid when a situation is so new, so strange, that he has no means of interpreting it. He says little or nothing to strangers and tries hard to conceal his mental conflicts. In the dental office, the shy or bashful type often walks into the operating room trembling and ready to burst into tears. He usually displays no activity in the reception room and appears uninterested in everything about him. He is the forgotten child in the home and his shyness is the outcome of too few child companions with little opportunity to condition himself to new surroundings and strangers, or a gradual impairment of general health resulting in a marked lowered resistance. The shy or bashful child is usually of school age and his conduct indicates the childhood symptoms for the beginning of an inferiority complex and an introvertive type of personality. For example:

Betty, aged 9, is a conscientious only child who suffers from a gradual breakdown in health. Her parents are not young and fail to realize Betty's need for childhood playmates. Betty, herself, does not possess the pep or urge to play outdoors and find youthful companionships. Her parents interpret her behaviourism as a home loving characteristic.

In the general management of children in a pedodontic practice, it is important to remember that every child possesses a type of personality which has an organized system of behaviour; and that we can almost determine how a normal child will react to any given set of conditions and how deep a mark these conditions will have upon him. ([7]) Then, too, we must realize that our degree of tolerance toward dentistry decreases with age and that a young child properly approached and handled makes the best patient.

Dental health workers and parents must not allow any child to build up inflexible attitudes toward pedodontia because a mistake with a child is much more disastrous than a mistake with an adult. Therefore, certain preventive psychological practices must be exercised. These preventive measures require a good deal of judgment and human sympathy as children are normally desirous of pleasing only themselves.

### Preschool Years

Parents, as well as dental health workers, should understand the emotional growth of children sufficiently to realize that during the preschool years, preferably at three, the child is easily conditioned because his personality is most pliable

7. M. M. Shirley, *The First Two Years*, pp. 302-326.

and flexible. ([8]) This period of childhood is the age at which to stimulate the necessary healthful attitudes toward pedodontia and is the opportune time to pleasantly acquaint the child with the benefits of dentistry. As one pedodontist puts it, the psychological management of children requires not only skill, but also a lot of good judgment or "horse sense." For instance, the daily routine of a child of three should include a nap from one to three o'clock in the afternoon. What chance would the best psychologist have in trying to do dental work for this child during his usual nap period? So, common sense should tell us that it is advisable to arrange an early morning appointment for all young children. The child's first visit should not be longer than one-half hour and if at all possible, the initial dental services should be pleasant. It is also important that the child be relaxed. Therefore, heavy clothing and coats should be removed to insure freedom of movement while in the dental chair.

### Psychological Responses

Since the psychological responses in the home and school differ from those in the dental office, it might be well to discuss the various defense mechanisms the child uses to overpower the dentist. The most common is that of crying at the top of his voice. But equally as perplexing to the novice are tantrums in the form of coughing, choking, refusing to get into the chair by throwing himself on the floor, playing sick, wanting to vomit, and holding his mouth tightly closed. Of course, these adjustment responses are not unusual as all children are by nature rebellious.

A timid child will often try several of the above methods, except that of holding his mouth tightly closed, to overpower a new and unfamiliar dental situation. This type portrays a lack of confidence in humanity and must be won over by the judicious use of patience, understanding, and judgment. The dentist must not only be kind and honest with this child, but also decidedly firm in his commands in order to motivate the child's co-operation. Often it is necessary to carry the timid child into the operating room and seat him in the chair. The mother should be assured that the child will be treated kindly, but firmly. She should be requested to remain in the reception room while the child is receiving dental treatment. It is also important for the dental health worker to accomplish something for this type of child at the initial visit, to continually assure the child that the better behaved he is the sooner he will be finished, to inform him that he will not be hurt if he is good, and to tell him repeatedly that he will not be allowed to leave the chair or operating room crying. If the child plays sick and wants to vomit, tell him to go ahead and vomit. Even go so far as to help him reach the cuspidor. When the child discovers that you have called his bluff, he will forget all about trying to overpower you and reluctantly begins to co-operate.

The bully type of child most generally refuses to open his mouth and puts up a big fight. In the psychological treatment of this type of personality, it is important for the dentist to radiate complete command of the situation. In these children, the towel procedure for calling the child's bluff must be utilized and is very successful. The towel that is used to protect the child's clothing is held over the mouth, partially smothering the child's breathing. Inform the child that you are willing to leave him loose as soon as he promises to be good. Continue the towel treatment until the child shows a

8. Ruth Steidinger, "Habit Training During the Preschool Years", *Journal of Public Health Nursing*, Nov., 1937, pp. 623-628.

willingness to co-operate. Usually three applications of the towel will cure the most stubborn cases. The bully child properly handled makes the best patient and his grandiose type of personality makes him a fine practice builder.

The shy or bashful child needs the presence of his mother in the operating room, but not in a sympathetic attitude such as holding the child's hand. The pedodontist or dental hygienist can motivate this child to co-operate immediately. But the great problem is to keep him good. Many times, he changes to a fearful type and as a result can never be re-conditioned. Kindness, honesty, and respect are most essential in the handling of the shy or bashful child. One mistake with this child is always disastrous. Therefore, short periods of operative care are most practical and praise is much more effective than censure. We should strive to bring out the best that is in this type of personality and assure the child through your operative care that you are his friend. A shy personality is most dominant in the child who desires recognition and kindness, and is a part of his struggle to attain a self-respecting individuality. Therefore, love in the form of kindness is the primary motivating device.

Children who do not possess a timid, bully or shy personality respond quickly to one type of approach: being accorded the same respect as adults. So if you understand the child, the problem of pedodontic guidance will largely take care of itself, providing however, that your personality favourably impresses children.

## The Dentist's Personality

If you find yourself upset by some misbehaviour on the part of the child, it is well to analyze your own personality because "human nature is so constituted that we fully tolerate in ourselves what we condemn in others." ([9]) The personality of the dentist should be flexible and adaptable to the personality of the child without showing any outward signs of emotional distress because "the yardstick that measures our success in pedodontia is our ability and capacity to get along with children. Our attitude towards the child influences the child immeasurably. If the child cannot be managed, it is usually the fault of the dental health worker and not the child . . ." ([10]) Therefore, all adults who profess to work for children must cultivate a healthy personality within themselves.

Dr. Howard Y. McClusky, School of Education, University of Michigan, states that the marks of a healthy personality are as follows: "(1) outgoing interests which act as resistance in time of crisis —blessed is the person who has a hobby; (2) interests in more than one field; (3) ability to change when necessary—that is a flexibility to adjustments; (4) ability to relax—very important in times of emotional upset; (5) insight or the ability to see ourselves as others see us; and (6) a sense of humour." ([11])

After we have carefully studied our own personality shortcomings, we must look at ourselves from the child's viewpoint. We must realize that the principal means that the child has of drawing his conclusions as to whether or not we are satisfactory when he first meets us is our

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9. Associate Justice George Sutherland, "Retiring Speech", quoted in *The Milwaukee Journal,* January 5, 1938, p. 1.
10. George E. Morgan, "Operative Procedures for the Deciduous Teeth", *Journal of the American Dental Association,* Vol. 23, 1936, p. 1689.
11. Howard Y. McClusky, "Marks of a Healthy Personality", *Journal of the Michigan State Dental Society,* Nov., 1937.

appearance. We must portray cleanliness in all of its phases: cleanliness of dress, of hands and fingernails, and of speech, as well as cleanliness of instruments and equipment. We must radiate courage because the child quickly senses any indecision and is almost uncanny in judging the psychological skill of the dental health worker.

### Atmosphere of Office

Equally as important as the dental health worker's personality and his psychological management of children in a pedodontic practice is the atmosphere of the dental office. The dental office, including the operating room, should suggest cleanliness, roominess and simplicity. It should create an atmosphere that provides for relaxation and, indirectly, makes the child feel welcome and as if he were among friends. If the reception room is crowded and overly decorated, the child is disconcerted before he steps into the operating room. He becomes tense and fearful of what may occur and no amount of applied psychology could induce the child to enter the operating room and respond favourably.

Pedodontic psychology is a fascinating subject and much more could be said about it. However, this brief discussion should make us realize that "there is no worthier calling than forming the minds of children and shaping the habits of youth." ([12]) It should inspire us to increase our ability to manage children; and it should, through its proper understanding and application, make dentistry a less unpleasant experience for both the child and the dental health worker.

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12. Raphael C. McCarthy, *Training the Adolescent.*

# *Common and Uncommon Conditions Noted in Conducting a Dental Survey in the Public Schools of Toronto*

by J. G. PILKEY, D.D.S., Toronto, Ontario

IN CONDUCTING a dental survey of approximately 20,000 children during the past year, the most common condition noted was, of course, the prevalence of dental caries.

STATISTICS FOR 1937

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|---|---|
| No. of Children Examined | 66,656 |
| No. of Children with Defects | 45,225 |
| Percentage of Children with Defects | 67% |
| No. of Cavities in Deciduous Teeth | 72,224 |
| No. of Cavities in Permanent Teeth | 79,945 |
| Total No. of Cavities | 152,169 |

In only a very few cases were there no signs of this disease, although in some better class districts, the incidence of decay was much less than in the poorer districts, especially in the kindergarten groups. This situation is likely due to the better pre-natal diet care and to the more intelligent realization of needed early care of the deciduous teeth, in the better class homes.

The next most common condition noted was the early loss, through extraction, of deciduous teeth. This usually causes malnutrition, through lack of proper mastication and very often causes irregularity of the teeth. One child in 32.4 examined needed orthodontic treatment. The permanent teeth tend to erupt prematurely before the jaws have developed sufficiently to make room for them. (Just recently, one case was seen in which only the two lower cuspid teeth were left).

The dental profession recognizes the importance of saving the deciduous teeth, through careful attention to the smallest defect, as a safeguard to the proper eruption of the permanent teeth.

Quite a few interesting abnormalities are seen in the secondary dentition during the age period of 5 to 13; e. g., delayed exfoliation of the deciduous teeth, early eruption of the permanent teeth, malposed teeth, rotated teeth, missing teeth, supernumerary teeth and teeth fused together.

Then there is the condition of oral cleanliness. On the whole, there is a big improvement in this regard as during the past year only about 4 per cent were reported as having extremely dirty mouths. This is due largely to the education of parents and children alike. A great deal of credit should be given, also, to our teachers in the schools, who take a real interest in the physical welfare of the pupils under their care.

Some of the uncommon conditions observed include:—

1. Defective tooth formations. — In Hutchinson's teeth, which are symptomatic of congenital syphilis, the deciduous molars, permanent incisors and first molars are affected. The incisors are broader at the neck than at the cutting edge. There is a yellow notch in the crescentic cutting edge, due to hypoplasia of the middle tubercle, giving it a moon shape.

2. Defective enamel formation or enamel dysplasia is evidenced by hypoplastic defects—opaque spots or mottled enamel. These are caused from food deficiencies or disturbed nutrition, especially infantile rickets, or general infec-

tions such as scarlet fever, measles or other acute infection, during the time the teeth are developing.

3. Inflammatory conditions of the tissues surrounding the teeth.—The most common noted is a mild gingivitis. The tissues around the necks of the teeth are inflamed and slightly swollen. This is caused chiefly by irritation from food debris, faulty restorations, cavities, teeth out of alignment and sometimes from mouth breathing. (Where the upper incisors protrude and the patient finds it difficult to close his lips, the gums are exposed to the air and are dry.)

Then there is the localized swelling of the gingiva caused by an abscess. When the school dental services were first started, it was common to find 3 or 4 such abscesses in a child's mouth, while today only a few are noticed; in fact, during the past year only 97 cases occurred out of 14,000 pupils.

Occasionally, in the older pupils, a more advanced stage of marginal gingivitis is seen, especially on the lower incisors and upper laterals. This is caused by heavy deposits of calculus on the teeth. Unless this condition is corrected, the disease may progress to the ulcerative type, often Vincent's infection or pyorrhea. Fortunately, only two cases were noticed which had been diagnosed as trench mouth and both were under treatment by their family dentist. As Vincent's infection is so easily spread by drinking cups and eating utensils the dentists in the schools are always on the lookout for it, in order to protect others and, incidentally, to institute early treatment of the disease. Reinfection may occur unless the mouth is put in a clean, healthy condition. With this in mind, I believe that dentists should be responsible for the treatment of this disease.

Hypertrophy, or tumour-like overgrowths are sometimes noticed, caused by carious teeth, faulty restorations or some other irritation. These are small growths of inflammatory granulation tissue.

Abnormal frenum occurs in about 10 per cent of those examined. This fibrous connective tissue often extends between the incisor teeth to the palatal side, where it blends with the papilla palatine. In most cases, leading dental authorities do not recommend surgical removal of an abnormal frenum.

There are occasions where symptoms of general disease are noticed. When this condition is apparent, it is drawn to the attention of the school nurse. The flushed, hot face denoting fever, fetid odour of the breath, swelling near the angle of the jaw, or inflamed appearance of the tongue or tonsils are other observations which are recorded when present.

While these examinations are carried out as carefully as possible, at the rate of 100 to 125 pupils in a morning, under adverse conditions, with the aid of mouth mirrors and explorers only, naturally many conditions may be overlooked. Nevertheless, the classroom inspection of the children's teeth by a dentist serves a very useful purpose. Gross conditions, at least, are discovered, and the child is directed to visit his private dentist or go to the school dental officer in a regular dental clinic, where minor defects are also corrected.

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*Calvin Coolidge, who is now being appreciated as one of the wisest American Presidents, once wrote these words: "Nothing else in the world can take the place of persistence. Talent will not; nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education will not; the world is full of educated derelicts. Persistence and determination alone are omnipotent. The watchword—'Press On'—has solved and always will solve the problems of the human race."—Efficiency Magazine.*

# *The Technique of Making Clasps, Lugs and Supports for Partial Denture Construction*

by THEODORE C. TRIGGER, D.D.S., St. Thomas, Ontario

IN order to make partial dentures comfortable and efficient for the patient it is usually necessary to use some form of retention in the nature of clasps, lugs, etc.

At present clasps are of two types, wrought and cast, and experience has shown that the latter are not as satisfactory as the wrought or rolled clasp, since the clasp material undergoes many physical changes, during the casting process. Even pure gold, when cast, becomes more dense and becomes too hard to be used again for such restorations.

The success of these removable structures will greatly depend upon the proper position of the clasps and their relation to the anatomical structure of the teeth to which they are attached, so that there will be a correct distribution of anchorage support to the partial denture.

Since the introduction of the casting process many operators have abandoned the idea of making cast clasps to support any form of partial denture as the close adaptation has a tendency, in the majority of cases, to cause abrasion and wearing of the tooth structure underlying and adjacent to the clasps, thus initiating caries.

The wrought clasp properly fitted to the tooth and resting upon only a few points of the tooth gives far better results than a closely fitting cast clasp and without danger of any possible loss of tooth structure. As it has been said the clasp was the first practical means of retaining partial dentures, and it is now being used as a means of retention of special types of removable bridgework.

When the writer commenced the practice of dentistry the clasps of partial dentures were made of gold plate containing sufficient alloy to give the clasp a resilient or rebound effect. The clasps on the early dentures were made also without lugs; hence they were more or less movable under the stress of mastication which caused the clasps to move over the tooth, thus causing an abrasion and sensitive condition of the tooth structure. However, during recent years, with a better knowledge of constructing these attachments, and with highly efficient gold alloys at our disposal all the requirements for this class of work have been met.

Clasp gold can be obtained in flat, round and half-round form and is supplied in various sizes and widths, usually small, medium and large for convenience in ordering. Extra tempered clasp gold can be obtained which has a good spring or rebound and such wire should not be annealed, as it will lose its elasticity.

The following is the procedure for constructing clasps, lugs, etc., in a partial upper denture supplying the second bicuspids and first molars. First of all a

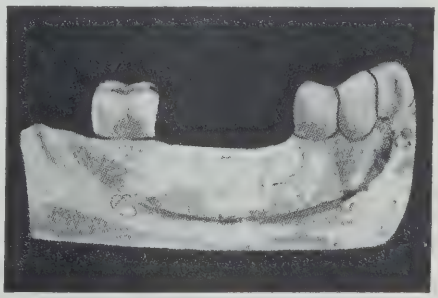


Figure 1.

thorough survey should be made of the remaining natural teeth to determine the best type of retention to use, also, an accurate impression of the parts should be obtained before any attempt is made to construct the denture. Figure 1 shows the position of the teeth and parts to be restored of one side of the maxilla, which is practically the same as the opposite side. In this case half-round alloyed gold wire of medium gauge is used in forming the clasps and lugs, and the clasps are placed in position on the teeth before soldering on the lugs.

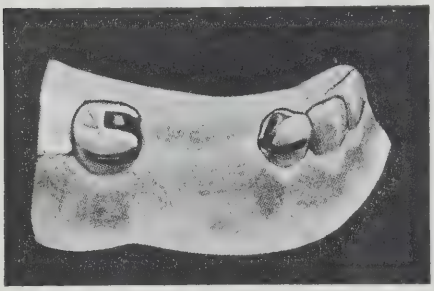


Figure 2.

Figure 2 shows clasps and lugs waxed in position on the model. A small amount of wax smeared over the joints holds these pieces of metal in place.

Figure 3.

Sometimes these two attachments can be easily removed after waxing and then directly invested, but the most secure way

Figure 4.

is to take an imprint of the parts with a small stick of impression compound as shown in Figure 3, allowing it to cool sufficiently so as to be removed gently from the model. In this way the clasp and lug will be retained in proper position without distortion, Figure 4.

Figure 5.

Now with the wires in the compound, care should be taken to see that the joint at the junction of the clasp and the lug is free of compound and over this joint should be smeared a small amount of wax, so that when the investment is poured it will not run into the joint. Mix an equal amount of plaster of paris and sump, the latter material being supplied by the S. S. White Manufacturing Company. This mix is now poured into the impression taken, as shown in Figure 5. This mixture sets quite rapidly and will not crack when subjected to the heating process during the soldering technique.

After the investment has thoroughly set it is ready to remove the impression compound, which may be softened by holding the wax in hot water, after which it may be readily removed from the wires which are imbedded in the investment, as shown in Figure 6. It is necessary to see that the joint of union of these two pieces of wire is perfectly free from any particles of investment to facilitate the easy flowing of the solder. In order to control the solder in the heating and flowing process, pack a small amount of pure gold on both sides of the joint, the most convenient form of gold to use being the one-half size cohesive cylinders as in this form the pellets can be packed easily around the joint. See P.G., Figure 6.

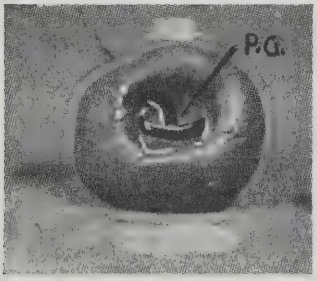



Figure 6.

After the case is well heated on a burner it is ready to be soldered. A small piece of 18 carat gold solder is placed in position and a small quantity of borax as a flux is used, sprinkled on in the dry form, then, with a needle-blow-pipe flame, the soldering process can be easily accomplished.

However, it must be borne in mind that sufficient solder must be applied in order to give the lugs enough strength to overcome the force which such dentures are subjected to in long continued use. It is not unusual to see patients who have ground these lugs off by the force of mastication; therefore, it is very important to use a high-grade of gold alloyed wire as well as solder, for inferior grades will bring about disastrous results.

Figure 7.

The attachment supports should be made also of the same fine quality, and of sufficient strength and retentive form in order to overcome any strain which might be placed upon the retentive fixtures when in use. The approximate position of these attachments is shown in Figure 7, also, the porcelain teeth in position ready to be covered with base denture wax, and the final completion of the fixture is illustrated by Figure 8.

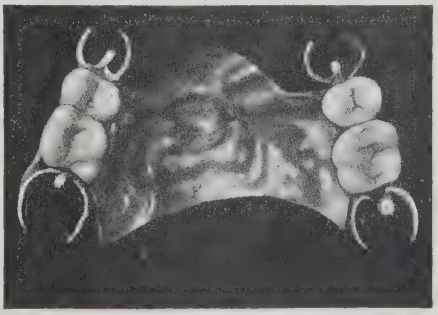


Figure 8.

No one kind of metal clasping is recommended to be used for all cases of partial denture construction as all have a place in this kind of work, the round, the half-round and the flat; and it is very convenient to have, in the laboratory

equipment, a metal roll, as with this appliance sheet gold can be rolled to any gauge thickness that might be required; and the size of the round wire varies in gauge from 15 to 21, but for ordinary work it ranges from 17 to 19 gauge. Another handy appliance is a light anvil. One was made for me with round holes drilled on the flat surface near the outer edge, the holes being drilled according to the various sizes of round wire, thus facilitating the work of bending the wires. In bending the end of the wire at right angles the wire can be passed through the specified hole in the device and then the bent lug-end is made flat by a light stroke of the hammer.

The instruments for bending clasp wire are quite limited. Two or three well selected pliers are sufficient; one with round tapering beaks, and another with flat tapering beaks, and also a plier which is used only occasionally, but which is very useful, to put a kink or abrupt bend in the wire; one beak is round and the other flat, which allows a firm grip on the wire.

When the dentist is equipped with the proper appliances for wire manipulation for partial denture construction it is amazing how skilful an operator becomes, and the work is not so difficult as a beginner might expect.

The whole procedure in the construction of partial dentures with their accessory attachments is very interesting and profitable. The writer is at a loss to understand why so many practitioners send their cases away to be made, as the dentist should be better qualified as he has a mental picture of the case, which should assist him in rendering more efficient service, and at the same time train his eye and hand to become more efficient in performing the many other exacting operations in the practice of dentistry.

## CANADIAN ARMY DENTAL CORPS REORGANIZATION

**As this Journal goes to press, we are informed that the proposed reorganization of the Canadian Army Dental Corps, as submitted to the Dominion Government and discussed with the Department of National Defence, has been adopted. At the present time the details of the reorganization are being arranged in Ottawa.**

**The members of the Canadian Dental Association will be pleased to learn that this matter has been brought to a successful conclusion. Further details will appear in a subsequent issue.**

**Great credit is due to the Canadian Army Dental Corps Committee of the Canadian Dental Association, which conducted the different negotiations. This committee is presided over by Dr. Ira Hamilton of Ottawa with Dr. J. F. Blair, Dr. W. G. Trelford, Dr. Frank M. Lott, Dr. E. T. Bourke and Dr. Stephen A. Moore as members of the Executive Committee.**

## IMPORTANT NOTICE

**Graduate dentists, dental salesmen and dental technicians desiring to enlist or offer their services in the Canadian Army Dental Corps are requested to make application to the Chief Dental Officer in their particular Military Districts. This is a request of National Defence Headquarters, as all applications received in Ottawa are sent to the District Dental Officers in which the respective applicants reside.**

# Practice Management

Our readers are invited to send their suggestions on office management and practice, or concise articles on some phase of this subject to the "Editorial Office", 314 Somerset Building, Winnipeg.

## *Appointment Cards*

LEGENDS which are noted on some dental payment cards are, "If you cannot keep an appointment for any reason we expect you to notify us," or "A charge will be made for broken appointments unless 24 hours' notice is given."

In the first sentence you are telling a patient in a commanding way to do something.

Abraham Lincoln said, "You can attract more flies with honey than you can with gall." This holds true in respect to getting people to abide by your wishes. To tell patients that you will impose a penalty or fine upon them for their perhaps unavoidable inability to keep an appointment is one way not conducive toward making friends. It is much more effective and polite to say, "In the event of inability to keep your appointment will you please telephone? Thank you for this courtesy."

In this way the option of telephoning is with the patient to whom it is indirectly suggested that it is good etiquette to be courteous with regard to the keeping of appointments.—*From The Dentist and His Control of Practice, by S. Joseph Bregstein.*

## *Office Secretary*

FIRST impressions, it is agreed, are all-important. Yet, oddly enough, the patient's first impression of a doctor often depends on his secretary.

This is especially true of initial visits. While they are waiting, patients wonder what you are like. They begin to draw a mental picture of you the minute they begin to notice things about your secretary—her personality, manners, and appearance.

If Mrs. Dinwiddie thinks the girl is a perfect angel, so much the better for you. If, on the other hand, Mrs. D. is irritated by some secretarial quirk, you may have a job trying to counteract her prejudice.

So it pays to check up now and then. Put yourself in the patient's place. Ask yourself what you would expect if you were a patient. Then make sure that your office girl fills the bill.

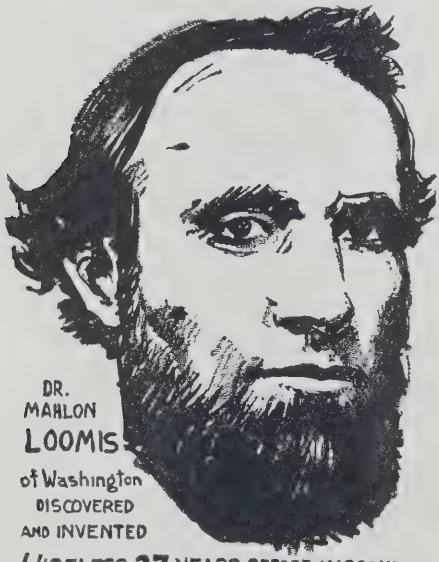
For if she doesn't fill the bill, she will most certainly help to empty the office.—*Medical Economics, Feb., 1939.*

*I would never say to patients, "There are several ways we could do this," because that is confusing immediately. I would show each way and then say, "These are the several ways."—Louis Hill, D.D.S., Los Angeles, Cal., in N. Y. Jour. of D.*

# *The Forum*

**• A DENTIST, THE INVENTOR OF WIRELESS**

DR. MAHLON LOOMIS (1826-1886), dentist and pioneer in wireless photography, invented and discovered the system of sending electric signals to a distance without wires. He carried his first two-way "wireless" communication between two mountain peaks in Virginia 18 miles apart in 1868, six years before Marconi was even born. The utilization of his invention met with a series of severe hard luck. He enlisted powerful




financial backing in 1869, but lost it in the financial panic of the Black Friday of that year. Chicago financial backing enlisted two years later, was cancelled through the great Chicago fire of 1871. Two years later Congress and the Senate both passed bills (1873) in his favour, but failed to make any material appropriations. He finally died heartbroken of a renewed failure in 1886. Nine years after his death Marconi picked up where Loomis had left off through a series of misadventures.—*Toronto Star, 1935.*

*The above article was received from Dr. F. C. Husband, Toronto, who points out that most of us know that general anaesthesia was given to mankind by dentistry but that many of us do not know that a dentist pioneered in "wireless."—Editor's Note.*

**• FAMILY INCOME: $2,116 IN U.S.A.**

THE average individual income in 1938 was $492 but the family average income was $2,116. $2,116 is not a lot of money by any means, but it is enough for almost any family to get along on, to buy the necessities of life and a few of its luxuries. Dentistry is one of life's necessities and if a proper share of that $2,116 is not going for needed dental care, it is because the income is diverted to luxury items; people will go without dentistry to buy entertainment or an automobile, but you can bet your bottom dollar they won't go without food or clothing to buy any luxury item under the sun. The answer, of course, lies in the fact that people do not know that dentistry is a necessity, but cold and hunger are sufficiently unpopular so that the most stupid knows he must clothe his body and feed his stomach. It is up to the dental profession and the trade to put dental care on a par with food and clothing, to make it in the public mind what it is in fact—a necessity. Then, and only then, will the American family divert some of its annual $2,116 from the needless luxuries into which it is now poured to channels where it will be of permanent

benefit to the family, the individual, and the public health.—*Dental News, June, 1939.*

### • BACTERIAEMIA AND ORAL SEPSIS

by S. D. ELLIOTT, M.B.

(*Abstract from Proceedings of the Royal Society of Medicine, May,* 1939).

TRANSIENT streptococcal bacteriaemias are a frequent sequel to dental extractions especially when the mouth is the seat of severe chronic gum infection. Bacteria may also gain admission to the blood-stream in such cases irrespective of operative procedures and probably as the result, in many instances, of minor degrees of gum injury such as is produced by biting on a loose tooth. Acute apical infections do not appear to be especially associated with blood infection of this kind, the focus of infection here apparently being effectively "walled off" by the associated inflammatory reaction.

Of the two factors, infection and trauma, involved in the production of these post-operative bacteriaemias, infection appears to be the more important, since, when it is marked, very slight degrees of gum injury are sufficient to produce blood-stream invasion. In the complete absence, however, of the type of trauma induced by the "rocking" of a tooth during its removal, extraction may be accomplished without producing a heavy bacterial shower in the blood.

Usually these transient bacteriaemias produce no permanent ill-effect, but there is some evidence that, occurring in subjects with abnormal heart valves, they may lead to sub-acute infective endocarditis. Thirteen cases are reported where the valvular infection appeared to result from a post-operative dental bacteriaemia.

Prevention of such bacteriaemias may be achieved by the reduction or elimination of infection and trauma. Complete elimination of the gum infection is difficult although preliminary treatment of the gum margin by some measure such as cauterization may lessen it and lead to a reduction of the post-operative bacterial shower. Similarly, by manipulating an infected tooth as little as possible during its extraction the incidence or degree of blood infection may be decreased.

### • SERVICE TO CONFRERES

WHILE it's not exactly in the Oath of Hippocrates, the courtesy of rendering free service to another physician is one of the profession's oldest and most binding amenities.

But how about a doctor's relatives?

A physician's wife and children, clearly enough, merit the courtesy. But what of his sisters and cousins and aunts? Are we to treat gratis all who, by blood or marriage, claim some tie to a fellow-physician? If not, where should the line be drawn? If too liberal, we are imposed upon; if too uncompromising, we breed illwill.

One good and simple rule is this: If the fee must come from another doctor's pocket, make no charge.

But if someone else will pay the fee —someone not a doctor—then send a bill.

A doctor's father-in-law, for instance, will be treated free if he is a *bona fide* dependent, supported by the physician's bounty. If not, he will receive a bill.

A colleague told us recently of *his* courtesy problem. He was treating the lawyer-husband of a woman doctor. He hesitated about sending a bill. "I don't charge a doctor's wife," he mused, "so why bill a doctor's husband?" But then he applied the rule, saw that payment would come from the attorney's earnings—not from any fellow-physician—and charged a fee.

He was paid promptly, and there were no hard feelings.

It's a good rule. And it works both ways.—*Medical Economics, Feb., 1939.*

## • THE DENTIST'S POSITION IN THE NATIONAL ECONOMIC SYSTEM

*(Excerpt from President's Address; delivered by Dr. Walter J. Pryor, Cleveland, Ohio, before the Seventy-Third Annual Meeting of the Ohio State Dental Society, November 27, 1938, and published in the Journal of the Ohio State Dental Society, February, 1939).*

THERE is a general misconception that the masses are demanding adequate dental care. This is not a fact. They accept only that which physical discomfort forces on them. A great majority of those financially able to have complete dental care do not choose to avail themselves of it, but have only that done which pain or pride makes urgent. This applies to many intelligent and educated people such as teachers, business people, journalists, clergymen, engineers, public officials and public health workers. It even applies to physicians and dentists themselves.

The public chooses to spend its money on less important items than dental service, and until it develops a greater appreciation for the things that bring health and comfort, it will suffer for its folly. The following figures show some expenditures made by the public for non-essentials as compared to dental service.

Dental service, $400,000,000; dentifrices and mouth washes, $29,500,000; tobacco, $1,600,000,000; beer, $1,730,000,000; liquor, $880,000,000; cosmetics, $700,000,000; silk hosiery, $645,000,000; motion pictures, $2,000,000,000; gambling, $6,500,000,000; legalized race track gambling, $500,000,000; dog bill (food, kennels, etc.), $600,000,000; radio and musical instruments, $600,000,000; jewelry and silverware, $600,000,000; candy and confectionery, $400,000,000; automobiles (purchase and use), $6,500,000,000; sports and games, $900,000,000; coca cola, $60,000,000.

Four times as much is spent for tobacco; more than four times as much is spent for beer; more than twice as much is spent for liquor; almost twice as much is spent for cosmetics; $245,000,000 more is spent for silk hosiery; $200,000,000 more is spent on dogs and their upkeep; five times as much is spent on motion pictures; gambling and automobiles each take sixteen times as much of the public's money; sports and games each take more than twice as much of its money. On one soft drink alone $60,000,000 is spent; this amounts to $1.00 for every $5.00 spent on dental service.

Some of these items have a bad effect on the teeth and others a bad effect on the general health, and many who are said to be dentally indigent, are good customers for the above mentioned items.

Briefly here is the position of the dentist in the present day economic set-up of the nation. We constitute 70,000 individuals in free and open competition, with no price agreements whatever, while price agreements are common in the business world, and the labour market.

Our incomes are much lower, while our expenses for gold, teeth, etc., are much higher than they were ten years ago. The quality of our work has improved, so we are not out of step with the times.

The incomes of a small minority of dentists are greater than their services are worth. On the other hand the incomes of the majority are inadequate. We can do nothing about this as it is a condition prevalent in the entire country's economic set-up. However, this lack of balance between service rendered and income would be far worse if all dentists had the same income since the services of some would be far more valuable than those of others. In any compulsory health service arrangement this condition with its accompanying evils, the lack of incentive and initiative would result in a very poor type of dental service.

The average net income of about $2,400.00 is well below the limit set for

Social Security Old Age pensions. We contribute to this fund, but are not eligible for its benefits. Dental work is difficult and exacting. Those who earn more than a bare living must put in long hours; hours that would be considered overtime in the factory or office.

Most of us will work until very near the time when we leave this world, but we like the work; the privilege of relieving pain; the satisfaction of making our brothers better to look upon; we like the kind words of those who appreciate our efforts; and last but not least, we love our independence; the feeling that no employer can tell us to look for other work, that our services are no longer required. What profession can offer more?

## • CONVOCATION ADDRESS

IN his opening address a year ago Dean Ford called the attention of the incoming students to the importance of high ideals, right habits, and sound character. Even manners, dress, and one's speech are matters that cannot be ignored by persons who wish to get on in the world. Young people are not always thoughtful about these matters. There is a feeling, too common in college circles, that slovenly speech, slovenly dress, and exotic habits are marks of smartness. Dean Ford did not mean to imply that college students should cultivate stilted speech or become the victims of artificial mannerisms. His was a plea for those manners and customs and forms of speech for which good breeding and a college education call. He would have everyone who goes out from the university bear the stamp and wear the insignia of a cultured person.

Every student should grow in the power of self-mastery. He will make at least three records while he is a member of the university community: one on his fellows and associates, another on his own nervous system, and the third on the books of the university. The reputation which one establishes as a result of contact with his associates and through his performances in class or laboratory is of vast importance to him both here and later on. It should not be necessary to say that good manners, common courtesy, correct speech, and proper habits are still regarded, as much as they ever were, as important elements of character. The reputation which one establishes is, of course, subject to change. One can improve it or he can detract from it; but the steadier and more substantial it is, the more trustworthy one appears to be; the sounder his conduct and the cleaner his living, the better his reputation will be.

The record which one makes on his own nervous system, however, is more indelible. While it can be changed, it is more difficult to modify it. It is more difficult to modify it than to modify the reputation one establishes. Habits are not easily overcome. It is for this reason that one should, as early as possible, establish definite habits of study. Slipshod work will produce slipshod results. Thorough and meticulous work will help to make a careful mind more careful. One kind of study disintegrates human character, while the other builds it.

There is no substitute for thoroughness. It has been demonstrated time and again that growth of mind and depth of interest bear a close and intimate relationship to the degree of mastery that one enjoys in a given field. One may evade or escape the reputation which he has established among his fellows, but he can never escape from himself.

*—Excerpts from the unfinished address written for the opening convocation of the University of Minnesota on September 29, 1938, by the late President Lotus Delta Coffman, of the University.*

## • TEETH AND NATIONAL DEGENERACY

"ROTTEN teeth cause national degeneracy. You can't raise a nation on rotten teeth, though that is what we are trying to do. The chief cause of bad teeth is the fact that mothers feed their children with liquid food 20 degrees higher than the normal temperature of the child's body. I have found that one could sip tea from a cup at 140 degrees, and drink it freely at 120 degrees. If the temperature came below 115 degrees, we said the tea was cold. Hence it was that infants often got their milk at 20 degrees beyond blood heat. Doctors have been telling us how to raise a healthy body, but the teeth are the very gateway to health, and we are not being told how to keep this gateway clean. Dentists are only tinkering up teeth. The art of dentistry is getting nearer and nearer perfection, but the science of teeth is going backwards."

*—From "Sir James Cantlie, A Romance in Medicine," by Neil Cantlie and George Seaver, published* 1939 *by John Murray, London, W.I.*

"And if you're a good girl all next week, mother will let you go to the dentist and have another tooth out."

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*Editor*—M. H. GARVIN, Winnipeg

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# A.D.A. Convention

On July 17-21 in Milwaukee, Wisconsin, the American Dental Association held its Eighty-first Annual Convention with approximately 4,000 dentists from all parts of the United States, Canada and foreign lands participating in the scientific sections. The total registration, including relatives of members and those working with associated groups, swelled the attendance to about 8,000.

Dr. Arthur H. Merritt, of New York City, internationally-known authority on periodontology will serve as president for the ensuing year, succeeding Dr. Marcus L. Ward, of Ann Arbor, Michigan. Dr. Wilfred H. Robinson, of Oakland, California, was chosen president-elect and will take office at the close of the 1940 convention, to be held in Cleveland, Ohio, September 9-13, 1940. Drs. Harry B. Pinney, of Chicago, and R. H. Volland, of Iowa City, were re-elected secretary and treasurer respectively.

A.D.A. officials characterized the Milwaukee convention as one of the most successful as well as one of the most significant in dental history. Dr. Ward, in his president's address, criticized the proposed health program of the United States government, pointing out that "laws and money will not

solve the health problems confronting the people of this country." The solution, he said, depends on intelligent co-operation among open-minded representatives of the government, the public and the profession.

Frank E. Gannett, newspaper publisher of Rochester, New York, and opponent of New Deal policies, was more emphatic in his denouncement of the national health program, stating that American medicine is now "fighting for its life" and that the proposed health legislation will set the government up in the health business in competition with private interests. Dr. Haven Emerson, of New York City, a physician, also warned against government interference with the health professions.

Finally, the House of Delegates of the American Dental Association, officially announced opposition to the proposed Wagner Health Bill, which provides for the government's national health program. Speaking for the A.D.A., the house adopted the stand of the reference committee on public health, which held that dentistry is in agreement with the objective of the program, but opposed to the suggested methods of providing dental care. It is dentistry's official opinion that there is nothing "stated, implied or suggested" in the bill which guarantees the public the high quality of dental service it should have.

The New York Institute of Clinical and Oral Pathology was awarded first honours for Class A. scientific exhibits at the Milwaukee meeting, the class confined to research of an original nature. Class B. honours went to the Marquette University of Milwaukee, while Dr. Samuel Rabkin, of Cincinnati, won top awards in Class C. Dr. Rabkin's exhibit pointed to variabilities in bone structures and their influence on the mouth.

The public press gave the Milwaukee meeting wide attention, printing constructive news articles which emphasized the position of dentistry in the conservation of health and stressed, too, the scientific side of the profession. The sum total of the news stories was that dental ills have a tremendous influence on personal, public and even economic health; that dental ailments seldom, if ever, cure themselves, and that the only intelligent procedure is to visit the dentist often to protect the health of the mouth and avoid unnecessary dental expense in the future.

Dr. T. A. Hardgrove, a dentist of Fond du Lac, Wisconsin, made a modest bid for a place in the dental hall of fame, announcing to the convention what he believes is a cure by immunization for tic douloureux, which news stories defined as the "most painful affliction known to mankind."

Dr. Hardgrove announced that, in his opinion, tic is an aftermath of typhoid infection or invasion, and that he has been relieving the condition with injections of typhoid vaccine. His work was conducted at St. Agnes Hospital in Appleton, Wisconsin. Dentists and physicians, familiar with his research, have confidence that his typhoid theory will save much human suffering, even though it is not an absolute cure for trigeminal neuralgia.

To sit in the side-lines and watch the proceedings of this great organ-

ization was to become even more convinced than ever before of the necessity for Canadian dentists to become more thoroughly organized as a national body. Great problems are facing our profession in these days but greater ones await us just around the corner, and so it becomes imperative that our Canadian Dental Association should be placed in a position where it can act, and act effectively, in dealing with these national dental problems.

I have the greatest sympathy for the dentist who has serious financial difficulties in regard to practice and collections, troubles which eat into his very soul, but even this man cannot afford to vote "No" to legitimate support to his national dental organization, for his troubles could undoubtedly be aided by competent advice.

But apart from personal gain may I not appeal to my readers on a broad professional basis. W. J. B. recently said in the Birmingham Post: "The other night, when returning in the dark, from a farmers' gathering, I heard the remark, without seeing the source of it, 'Ah, it may be good business—but it isn't good farming.' . . .

"It is as refreshing as a breath from the south-west to all of us whenever we see someone putting resolutely on one side the bait of immediate material gain from a sense of craft-pride or duty to a tradition. It is a heartening affirmation of hidden worth in us and in some of our human callings."

What Dentistry needs in these days is character. *"Character is power.* Hang this motto in every school in the land, in every home, in every youth's room. Mothers engrave it on every child's heart. Character needs no recommendation. It pleads its own cause."

The American Dental Association still stands as one of the stars in the dental firmament for us to gaze upon and try to emulate.

The writer would express his sincere appreciation of the gracious reception given to himself and to other Canadians at this great Convention and would extend also his thanks to Dr. Lon W. Morrey, of Chicago, one of our Journal's U.S.A. Correspondents, for much of the information contained in this article.

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# *Public Dental Health*

The Greater New York Bureau for Dental Education has again made a splendid contribution to public dental health by authorizing for publication in popular magazines, several articles on health subjects. We would call our readers attention to an article entitled, "Make Way for Even Teeth," appearing in the September issue of Parent's magazine, an article which will be read by the parents of more than a million children. Another article authorized by this same Bureau will appear in the fall issue of You, magazine.

In last month's issue of the Journal of the Canadian Dental Association editorial reference was made to an objectionable poem, from a dental public health standpoint, appearing in the Canadian "National Home Monthly."

The Publishers were interviewed and it was agreed that this would not happen again. Better still, however, is the fact that the editor of this magazine has published an excellent article by Lois Ardwyn, entitled "Dare to Smile." This article speaks of the value of sound teeth and a healthy mouth and appears in the August issue of the National Home Monthly. We would commend this story to the dentists of Canada and would urge them to recommend the same to their patients.

In the newspaper field also there has been a marked advance in the attention paid to the importance of mouth health. Many newspapers have published articles in the interests of dental health, notably the Toronto Star Weekly of May 20, 1939, wherein a very fine full two page illustrated dental story was published.

The Canadian Dental Association has done some of this splendid publicity work through the efforts of Doctor Harry Thomson and our President, Doctor Stephen A. Moore, and our Public Dental Health Committee. Let us support them heartily in their earnest efforts to direct the public interest to these important facts and let each one of us do all in our power to place before our individual patients, as well as the general public, such stimulating facts so helpful to them in guarding their health, for without this important factor our lives are useless. Through these agencies which we have at our disposal much of good can be accomplished.

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# *Dentistry and Commercial Advertising*

In a previous editorial it was pointed out that our President, Doctor Moore, had taken up the matter of an objectionable advertisement, from a dental and public health standpoint, with Libby, McNeill and Libby of Canada, with the result that this Company agreed to avoid publishing in future anything detrimental to our profession.

It is indeed pleasing to note that since then this Company, in several advertisements of Libby's tomato juice, appearing in newspapers across Canada, have urged the public to visit the dentist regularly in order to ensure sound teeth. For a long time the dentists of Canada have recommended tomato juice as one of the ideal foods containing essential vitamins to mouth health, and it is to the advantage of everyone concerned that there should be the closest co-operation between our profession and all companies which produce foodstuffs of value to dental health; therefore it is a pleasure to acknowledge the co-operation of the Libby, McNeil and Libby Company and to make it known to the dentists of Canada.

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# BOOK REVIEWS

**Diseases of the Mouth and Their Treatment,** by Hermann Prinz, A.M., D.D.S., M.D., D.Sc., Dr. Med. Dent., Professor Emeritus of Materia Medica and Therapeutics, The Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania, Philadelphia; and Sigmund S. Greenbaum, B.S., M.D., F.A.C.P., Professor of Clinical Dermatology and Syphilology, Graduate School of Medicine, University of Pennsylvania. Second Edition, thoroughly revised. Illustrated with 324 engravings and 12 coloured plates. Published by Lea and Febiger, 600 S. Washington Square, Philadelphia, Pa. Cloth $9.00.

This book is a recognized text-book for practitioners and students of medicine and dentistry. Its specific object is to collect and evaluate the outstanding contributions concerning the diseases of the mouth and their treatment. A number of well-known authorities have contributed material on such specialties as microscopic technique, roentgenographic examinations, mouth breathing, harelip and cleft palate and diseases of the mouth associated with nervous diseases. A new chapter on lymphadenitis has been added, together with articles on Paget's disease (Osteitis deformans), Schiiler-Christian disease, hereditary pseudohemophilia, sarcoidosis and numerous other editions amounting to fifty-four pages. Dr. H. R. Churchill has contributed his classification of tumours of the mouth. Some 75 new illustrations have been added and many of the older ones replaced.

The following subjects are dealt with: Embryology, Anatomy and Physiology of the Oral Cavity; Significance of the Teeth in Relation to Oral Diagnosis; Examination; Symptomatology of General Disturbances within the Oral Cavity; Oral Hygiene and Prophylaxis; Oral Manifestations of Local Origin and from Metabolic Disturbances; Oral Manifestations of Infectious Diseases, of Tropical Diseases, in Skin Diseases, of the Tongue, Lips, Cheek and Palate, of the Salivary Glands and Floor of the Mouth, and of Diseases Associated with Nervous Disturbances; Tumours and Cysts and Therapeutic Suggestions.

As the dentist is frequently confronted with difficulties in diagnosis, this book should prove most valuable in assisting him to solve the many difficult problems which are so often met with by the general practitioner.

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**Old Instruments Used for Extracting Teeth,** by Sir Frank Colyer, K.B.E., F.R.C.S. Eng., L.R.C.P. Lond., L.D.S. Eng., with a foreward by George Northcroft, O.B.E., L.L.D. Toronto, L.D.S. Eng., 72 pp., with 100 illustrations. Bound in heavy cloth. Published by British Dental Association, 13 Hill Street, Berkeley Square, London W.1., Price 5 s. Foreign postage 6d. extra.

This remarkable work is the first in the English language to offer a comprehensive account of the development of extraction instruments from the earliest times.

Founded on the Wallis Memorial Lecture, delivered by Sir Frank Colyer at the Royal Society of Medicine in November, 1938, the book, which is fully illustrated, is a compendium of information on the forerunners of present-day instruments.

Special sections are devoted to pelicans, elevators, keys, screws and forceps, and reference is also made to a number of unclassified instruments—many of the greatest historical and mechanical interest.

This is a book which no dental library can be without and which is full of permanent interest to every member of the profession.

This book will contain the entire series of splendid articles which have appeared in recent issues of the British Dental Journal, and will be ready for delivery about October 1.—*M. H. G.*

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**The Dentist Faces His Future,** by George Wood Clapp, D.D.S., of New York City, 230 pages, Published by the Educational Division of The Dentists' Supply

Company of New York. Price $1.00, in the U.S.A., through dental dealers.

This book has two purposes, first, to tell every practitioner who is not satified with the results he has so far achieved, that he can begin to achieve the success he has hoped for at any time or at any age, in almost any community and without waiting for similar action on the part of other dentists; and second, to help undergraduates to live out, as many as possible, the happy dreams with which they will begin practice.

Doctor Clapp has made a thorough study of the conditions of dental practice all over this Continent, during the past thirty years, and has arrived at conclusions which every dentist will appreciate considering. This is a very practical book and should be very generally read, particularly as it is not a money-making venture but published with the desire that it may direct the thoughts of thousands of men, who are practising dentistry at the present time, towards a higher and more hopeful future.—*M. H. G.*

## NEWS FROM THE PROVINCES

*NEW BRUNSWICK:*

### N.B. Dental Association

At the annual meeting of the New Brunswick Dental Association, held in Moncton in July, the following officers were elected: President, Dr. George MacDougall, Sussex; Vice-President, Dr. R. S. Langstroth, Saint John; Secretary-Treasurer and Registrar, Dr. S. K. Wetmore, Saint John; Members of the Council: Drs. A. C. Coughlan, Saint John; Theodore Godin, Campbellton; J. R. Hutchinson, Saint John; A. J. Cormier, Moncton; Frank Boyaner, Saint John; Lea Allanach, Moncton; H. J. Vaughan, Chatham; F. C. Simms, Edmundston; B. R. Ross, Fredericton; and Arthur Leblanc, Moncton.

*ALBERTA:*

### C.D.A. Delegate

Dr. R. A. Rooney of Edmonton, Secretary of the Alberta Dental Association, has been appointed a delegate to the Canadian Dental Association.

*MANITOBA:*

### Manitoba Dental Association

The benefits derived from attending a large convention are by no means limited to the technical information acquired from the essayists, clinics and exhibits. Conventions bring together old friends and acquaintances who may never meet otherwise, and offer opportunities for convivial gatherings which give a mental uplift which are enormously beneficial. Among the hundreds who attended the May meeting of the Western Canada Dental Society were a number of Great War Veterans who in some capacity either were or are now connected with the dental profession. Most of them served with the Dental Corps during the war. A get together dinner was arranged for May 29 at the Fort Garry Hotel, Winnipeg, and about fifty enjoyed a couple of hours of good fellowship, renewing old friendships, singing old marching songs, led by our versatile Reeve Morrison, and generally feeling at least 20 years younger. Father Time had been unceremoniously left by himself in the MacDonald Room.

The only address of the evening was made by Dr. George Cameron of Swift Current, who discussed the re-organization of the Canadian Militia in its relation to the C.A.D.C. He paid tribute to Dr. F. M. Lott of Toronto for his valuable contribution to the re-organization of the C.A.D.C. and a hearty vote of appreciation of Dr. Lott's assistance was passed.

Among the dentists present were O. Brewer, N. C. Carmichael, A. R. Ezard, K. M. Johnson, D. A. P. McKay, F. J. Moffatt, C. H. Moore, J. F. Morrison, Reeve Morrison, W. R. Morrison, A. W. Myles, R. H.

Snyder, D. P. Stratton, P. B. H. Wood, W. W. Wright and D. Young all of Winnipeg. Other Winnipegers were A. A. Allden, W. J. Cracknell, W. J. Douglas, W. Fawcett, Ted Moorehouse, Allan Moorehouse, and S. R. Reid.

Dentists from outside points included G. H. Bray, Morden; N. S. Bailey, Portage la Prairie; O. H. Bertrand, Rodville; E. T. Carrothers, A. R. Graham and A. R. Hurst of Brandon; E. H. Clark, Minnedosa; H. A. Croll, Souris; G. L. Cameron, Swift Current; C. C. Graham, Russell; A. A. B. Kenny, Maple Creek; C. H. McKenzie, Hartney; J. W. Pickard, Swan River; W. A. Pommer, Manitou; A. B. Porter, Flin Flon; E. W. Mounteer, H. M. Schweitzer and F. S. Van Woert, of Regina; L. J. Lequyer, Melfort; C. W. Steele, Weyburn.

*ONTARIO:*

### Academy of Dentistry

President Dr. Bill Trelford and his Academy Council are planning a good fellowship night to be held at the Granite Club, Toronto, on October 14. Dentists of Toronto and district are invited to keep this date open and be on hand for a good evening's fun.

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### Dental Health Committee

Dr. Glen Mitton has been appointed chairman of the Public Dental Health Committee of the Toronto Academy of Dentistry. Dr. F. H. Shepherd is secretary.

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### Toronto East Dental Society

Toronto East Dental Society will hold its fall golf tournament at Cedarbrae Golf Club on September 20. Play commences at 1.30 p.m. Dr. Leon Hipwell, President of the society, hopes for a good turnout of members and friends.

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### Dr. McCutcheon Honoured

Dr. R. C. McCutcheon of Highgate has been appointed District Deputy Grand Master of the Masonic Lodge for the District of Chatham, Ontario.

### Fort William Dental Clinic

Authority to organize a dental clinic to serve Fort William school pupils was vested in the management committee July 10, by the Fort William Board of Education. Arrangements were to be made to appoint a dentist, and have the clinic in full operation by September.

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### Elgin County Golf Tournament

The annual Elgin County golf meeting at St. Thomas Golf and Country Club was better than ever this year. Sixty dentists attended and forty-nine played. R. A. Gilbert, President of the Golf Club was chairman of the tournament committee. Splendid prizes were awarded the winning players. Low gross went to Dr. Kenneth McKay with a score of 72 and second low gross went to Dr. C. Harper with 75. Other prize winners were—

Dr. G. V. Morton, Toronto—Low gross for 1st nine.

Dr. D. Taylor, Tillsonburg — 2nd low gross for 1st nine.

Dr. J. W. Cornell, Chatham—Low gross for 2nd nine.

Dr. R. A. Connor—2nd low gross for 2nd nine.

Dr. H. Sykes, London—Low net.

Dr. R. C. McCutcheon, Highgate—2nd low net.

Dr. Hilliard—Low net for 1st nine.

Dr. Windrim—2nd low net for 1st nine.

Dr. Freele—Low net for 2nd nine.

Dr. P. G. Pow—2nd low net for 2nd nine.

Twenty-three players were rewarded for "birdies" and "eagles."

During the dinner program short addresses were given by Dr. J. Clarke of Aylmer, who is President of the Association and who presided as toastmaster; Dr. Stephen A. Moore, President of the Canadian Dental Association; Dr. G. V. Morton, President of the Ontario Dental Association; Dr. George Hogan, President of the Board of the Royal College of Dental Surgeons; Dr. McGuire of Simcoe; Dr. R. S. Woollatt of Toronto and Charles McKenna of Toronto.

*QUEBEC:*

**Fifteenth Annual Fall Clinic of Montreal Dental Club**
**September 27-29**
**Mount Royal Hotel Montreal**

'IF'

If you want answers to dental questions—
If you want to improve your practice—
If you want to hear about recent developments—
If you want to see the latest technique—
If you want to learn of advances in materials—
If you want to see improvements in equipment—
If you want to meet old friends and acquaintances—

COME TO THE MONTREAL FALL CLINIC

September 27-29, 1939

WEDNESDAY, 27.

8:30 A.M. Registration—Corridor, 9th Floor
9:30 A.M. Address of Welcome, Dr. C. Morris, President of Montreal Dental Club
10:00 A.M. Subject:—"Essentials of Radiodontic Service" by Clarence O. Simpson M.D., D.D.S., St. Louis, Mo.
12:00 Exhibits ..... Ball Room, 9th Floor
You are respectfully requested to defer, if possible, any contemplated purchases of equipment, instruments etc., until the meeting, when our exhibitors who will have a complete line on display will appreciate your patronage.
1:00 P.M. Luncheon
2:30 P.M. Subject:—"A Physiologic Basis for the Treatment of So Called 'Pyorrhea' by C. R. Lundquist M.S., D.D.S., F.A.C.D., Chicago, Ill.
4:00 P.M. Registered Clinics
4:30 P.M. Exhibits
8:00 P.M. Manufacturers' and Exhibitors' Demonstrations. Montreal Dental Nurses and Assistants Association Table Clinics.
The entire evening has been devoted to the above events and all dentists, dental students and members of the dental trade are cordially invited to attend whether registered at the clinic or not.

THURSDAY 28.

9:30 A.M. Subject:—"Surgical Problems of General Practice." by Don E. Woodard, D.D.S., M.S.D., Kansas City, Mo.
11:00 A.M. Subject:—"Nitrous Oxide and Oxygen Analgesia in Operative Dentistry." by Walter V. McGilvra, D.D.S., Worcester, Mass.
12:00 Exhibits
1:00 Luncheon
2:30 P.M. Subject:—"Yourself, your Profession and your Future." by Gaylord J. James, D.D.S., F.I.C.D., Cleveland, Ohio.
4:00 P.M. Registered Clinics
4:30 P.M. Exhibits
8:00 P.M. Dinner Dance

FRIDAY 29.

9:30 A.M. Subject:—"Porcelain Jacket Crowns." by Carlisle C. Bastian D.D.S., F.I.C.D., New York.
11:00 A.M. Subject:—"Dental Responsibilities in the Development of Growing Children." by Lowrie J. Porter, D.D.S., F.A.C.D., New York.
12:00 Exhibits
2:00 P.M. Table clinics:—By members of the Ottawa Dental Society; an event which we feel certain will be one of the highlights of our Meeting. A short summary is given below; full details to be published in the clinic program.
1) 'Centric Jaw Relation and The Vertical Dimensions.' Felix A. French D.D.S., F.A.C.D.
2) 'Some Results of Premature Loss of Temporary Teeth and a Method of Preventing them.' Charles R. Juvet D.D.S.
3) 'Cleft Palate Prosthesis.' Oliver Martin D.D.S.
4) 'Application of some of the Newer Methods in Orthodontic Practice.' Sydney W. Bradley, D.D.S., M.D.S.
5) 'Porcelain Jacket Crowns and Inlays.' Russell Beckett, D.D.S.
6) 'Copper Plating Compound Impressions in Indirect Inlay Technique.' Alvin A. Cameron D.D.S.
7) 'Gadgets and Handpiece Sterilization.' S. G. McCaughey, D.D.S.

8) 'Successful Silicate Restorations.' Arthur H. Crowson D.D.S.
9) 'Grinding Facings in the Making of Porcelain Jacket Crowns.' Robert R. Larmour, D.D.S.
10) 'Orthodontia For the General Practitioner.' B. Dixon D.D.S. D. A. R. McDougall D.D.S.
11) 'Selection and Care of Periodontal Instruments.' J. G. Dormer D.D.S.
12) 'Ethyl Chloride Analgesia in Children's Dentistry.' Kenneth M. Baird D.D.S.
13) 'Preparation of Ammoniacal Silver Nitrate.' John William Munro Lawrence D.D.S.

LADIES' LUNCHEON.

A luncheon will be tendered to the visiting ladies at the Mount Royal Hotel on Wednesday, September 27 at 1 P.M. The names and addresses of those ladies desiring to attend should be handed in at the time of registration.

DINNER DANCE.

This popular feature will again be held on Thursday, September 28, at 8:00 P.M. Dr. R. B. Bell has again kindly consented to act as chairman and assures every one of an enjoyable evening. The price of tickets is $2.50 per person.

GOLF.

The golf tournament will not be held this year but anyone desirous of playing golf the afternoon before the meeting, and out of town members who might wish to play on a Montreal course during their visit here are requested to get in touch with Dr. L. E. Kent, 86 A. Notre Dame Street, Lachine, Quebec who will be glad to arrange games.

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# EMPIRE NEWS

*GREAT BRITAIN:*

## President of British Dental Association Visits Canada

*(Excerpt from Valedictory Address, by Herbert Elwood, L.D.S. Edin., published in British Dental Journal, August* 1, 1939.)

Last September, following the Annual Meeting, I went to Canada for a short holiday, and when in Toronto I availed myself of the opportunity of calling on Dr. F. J. Conboy, and through him renewed friendships made with a number of the Canadians who came over here for the Empire Meeting in 1936. Although my visit was entirely unofficial, I received a very hearty welcome, and as Dr. Conboy is the City Comptroller and will probably be in the near future its Mayor, I saw a great deal more than would have been possible for a two-day visitor to that great city. I was introduced to the Mayor and shown over the City Hall and University. Later I was taken to see a great new airport which is under construction close to the city. Dr. Conboy also motored me to a public park where trees have been planted to commemorate the Canadian Regiments which fought in the last war. There is a special tree for each regiment. Of particular interest to me was the one in memory of the Canadian Dental Corps which was planted by Dr. Conboy on behalf of the Corps. He very kindly gave me a photograph of the ceremony.

I spent a very instructive morning with Dr. Edmund V. Grant, the Director of Dental Services for Toronto City. He conducted me round a number of the dental clinics, and I was much impressed with what I saw. In six of the largest schools there is a well-equipped clinic, with a full-time officer established in the school itself. In addition four inspecting dental officers visit the schools in turn and give simple talks to the children in the class rooms. I was fortunate enough to be present at one of these talks, and it was delightful to hear the enthusiasm of the children, especially when questioned on the care of the teeth. I feel that investigation by those interested in the organization of dental clinics in this country of the system as employed in Toronto would be well worth while.

My visit culminated with a luncheon given by 25 of the Toronto dentists. It was a memorable visit and I shall not readily forget their open-hearted welcome and generous hospitality.

**Chairman of the Dental Board**

The first Chairman of the Dental Board of the United Kingdom, the late Sir Francis Acland, who died on June 8 last, was appointed in 1921 and reappointed from time to time. The period for which he was last appointed would have expired on July 28, 1939, and the provisions of the Dentists Acts preclude the actual appointment of a successor until that date. The Lord President of the Privy Council, however, has invited Mr. E. L. Sheridan, F.R.C.S.I., L.D.S.I., Professor of Dental Surgery in the National University of Ireland, to accept appointment, and Mr. Sheridan has accepted the invitation. —*British Dental Journal, August,* 1, 1939.

*SOUTH AFRICA:*

**Dental Surgeons of Provincial Hospital at Port Elizabeth**

The Hospital Board at Port Elizabeth has decided that for services rendered on behalf of the indigent patients at the hospital the offer of 2/6 per tooth be withdrawn, and to pay instead an honorarium of £1,1s. per hour employed in attending to out-patients in the clinic, the time not to exceed four hours per week.

# GENERAL NEWS

**Greetings to B.D.A.**

The following resolution from the Canadian Dental Association was cabled to Mr. T. R. D. Walkinshaw, President of the British Dental Association, on the occasion of the recent convention held by that Association: "Canadian Dental Association extends to you and members of your Association fraternal greetings and best wishes for successful meeting."

STEPHEN A. MOORE, *President.*

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**Notice of Amendment**

The Committee on Constitution and By-Laws hereby give notice that at the next regular meeting of the Board of Delegates of the Canadian Dental Association, Dr. Faulkner will move the following resolutions and amend the Constitution:

Article 7. Amended by striking out the words "a Vice-President for each province".

Article 8. Amended by deleting the remainder of the Article following the word "delegates" in the four line, and substituting therefor the following: "Payment will be made of expense account on a mileage basis, in part or in whole, of each delegate as the funds of the Association will permit. When the President, President-Elect, or Immediate Past President, is not a duly authorized delegate, his expenses will be paid on the above basis". "The Board of Delegates shall consist of:

(a) The delegates from the different provinces.

(b) Such elected or appointed officers of the Canadian Dental Association as are not duly accredited delegates".

Article 12. Amended by substituting the word "Legal" for "Official" in the second line of the second paragraph of the Article, and further amended by inserting the words "Of Delegates" between the words "Board" and "present" in the fifth line of the second paragraph of the Article.

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**End of Harvard Dental School**

Beginning this fall Harvard Dental School will cease to exist. In future all students contemplating the practice of dentistry must first of all obtain their Medical Doctor degree. It is the intention to create specialists in oral surgery, public health service, dental pedagogy and dental research. To graduate in dentistry at Harvard will mean four years of academic work, three and a half years in medicine, one and a half years in dentistry, making a total of nine years. Upon completion of these courses the candidate will receive the degrees of A.B., M.D., D.M.D. If he wishes to enter the general practice of dentistry another year will be necessary making ten years in all.

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**A.D.A. Convention**

At the recent Convention of the American Dental Association held in Milwaukee, July 17-21, the total registration was approximately 8,000, of these approximately 4,000 were registered dentists.

The 1940 Convention is dated to be held in Cleveland, Ohio.

Photograph of Their Majesties, King George and Queen Elizabeth, taken with Dr. Homer Agar, Mayor of Watrous, Saskatchewan.
*Photograph by W. H. F. Cox, Saskatoon.*

### Trust Action Against American Medical Association Is Thrown Out of Federal Court

The highly publicized proceedings against the American Medical Association for alleged violation of the Sherman Anti-Trust Act were thrown out of federal court last week in a sharply worded ruling by Judge James M. Proctor, of the Federal District Court, Washington, D.C. The judge held that the practice of medicine is a profession and that the Sherman Anti-Trust Act does not apply to it. The act, he said, applies only to businesses and trades.

Several months ago indictments were brought against four medical societies and twenty-one physicians for alleged violation of the trust act. The indictment charged that these had conspired to restrain trade by fighting the Group Health Association, an organization created in Washington, D.C. to give medical care at a flat monthly charge. The defendant organizations were the American Medical Association, the Medical Society of the District of Columbia, the Washington Academy of Surgery and the Harris County Medical Society of Houston, Texas. Most of the ranking officials of these organizations were also included as individuals in the indictment.

The medical associations concerned filed a demurrer to this charge and this was sustained in all but one point in the ruling handed down by Judge Proctor. The point not allowed dealt with the constitutionality of the Sherman Anti-Trust Act.—*Bul. Chicago D. Soc. August* 4, 1939.

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### North Dakota Farm Security Plan Ends in Failure

The New Deal's attempt to socialize medicine in North Dakota, U.S.A., ended at midnight tonight after an eight months' trial that doomed it a failure.

Those in charge of the experimental program said it broke down because the doctors and physicians involved were dissatisfied with financial returns. The Farm Security administration, which launched the plan last fall, insisted at that time it would not hurt the medical profession.

The project was carried on among F.S.A. clients by the Farmers Mutual Aid corporation. It was based on a health insurance system of pooling small monthly contributions

from clients. Under the plan each eligible F.S.A. client who was head of a family contributed $2 a month to cover medical and surgical needs of his family. If the client couldn't pay, the F.S.A. lent him the necessary amount. The government also provided general supervision. — *Chicago Tribune: 7/1/39: A.D.A. Release.*

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### Webster-Seccombe Memorial Fund

Subscriptions have been received for the above Fund from the following: Harry L. Smith, Toronto; W. M. Wilson, Fredericton, N.B.; N. A. Weldon, Sackville, N.B.; A. J. Cormier, Moncton, N.B.; J. M. Magee, St. John, N.B.

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### American Red Cross

A one-reel motion picture entitled "Footsteps," which dramatically portrays the training of the Red Cross Nurse and the humanitarian work she performs, has been prepared for free distribution by the American Red Cross. The purpose is to acquaint the public with the scope and nature of the activities of the Red Cross on behalf of mankind.—*New York State Journal of Medicine, July 1, 1939: A.D.A. Release.*

### Employment Normal Again but Unemployment Double in the U.S.A.

Although employment has reached the 35,000,000 level of January, 1930, unemployment has more than doubled, Dr. T. J. Woofter, Jr. WPA population expert, told the Population Association of America.

The unemployment problem has doubled because over a million boys and girls are reaching working age each year. About 65 per cent join the job-hunting ranks.

To solve America's unemployment problem of the next 20 years, work must be found not only for the 11,000,000 now out of work but also for an additional 19,500,000. Most of these young job seekers are growing up in rural regions.

*Science News Letter—5/27/39, A.D.A. Release.*

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### Morals and Molars

Abruptly changing his plea for probation to a request to be sent to jail, John Elbert Williams, a confessed burglar, explained all to Judge Robert W. Steele. He needed a new set of false teeth and had discovered he could get them free in the prison dental ward.—*Newsweek: 6/26/39: A.D.A. Release.*

## IN MEMORIAM

**The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.**

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**H. Weller,** Welland, Ontario, aged 78, died August 5, following a week's illness. Following graduation Dr. Weller came to Welland in 1885 where he has since practised. He was vitally interested in sport and took a great interest in riding and in hockey. He was also interested in mining and had a property in the northland. Last fall he was lost in the northern woods for nearly 24 hours, but emerged safely.

Dr. Weller is survived by a sister, a brother, a niece and a nephew.

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**E. Charles Martel,** of Montreal, Quebec, aged 63, died July 24.

Dr. Martel is survived by his widow, a son and a brother.

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**Morley A. Day,** of Belleville, Ontario, died suddenly at his residence on July 25.

## . . . SECTION FRANÇAISE . . .

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# *Bactériémies et Infection Buccale*

par S. D. ELLIOTT, M.B.

Résumé extrait d'un rapport de la Société Royale de Médecine
Section de l'odontologie

Les extractions dentaires sont souvent suivies de bactériémies streptococciques passagères, surtout en présence d'une infection grave chronique des gencives. Les bactéries peuvent aussi atteindre la circulation indépendemment de toute intervention chirurgicale, probablement souvent comme suite de légers traumatismes des gencives, tels que ceux qui se produisent en mordant sur une dent branlante. Les infections apicales aiguës ne semblent pas être associées spécialement avec ces bactériémies, car le foyer d'infection semble être "emmuré" par la réaction inflammatoire qui les accompagne.

L'infection semble être le plus important des deux facteurs, l'infection et le traumatisme, qui produisent ces bactériémies, car, si l'infection est grave, un traumatisme très faible des gencives suffit pour amener l'invasion du sang. Toutefois, dans l'absence complète du traumatisme produit par le "balancement" d'une dent pendant l'extraction l'opération peut être accomplie sans produire d'émission sérieuse de bacilles dans le sang.

En général ces bactériémies passagères ne produisent pas de dommage permanent, mais il y a des raisons pour croire que quand elles surviennent chez des sujets avec des valvules cardiaques anormales elles peuvent être suivies d'endocardite infectieuse subaiguë. L'auteur rapporte 13 cas où l'infection valvulaire semble être la suite d'une bactériémie dentaire post-opératoire.

Ce genre de bactériémie peut être évité par la réduction ou l'élimination de l'infection et du traumatisme.

L'élimination complète d'une infection gingivale est difficile, mais celle-ci peut être diminuée par des mesures préliminaires telles que la cautérisation du rebord gingival, ce qui diminue l'émission postopératoire de bactéries. La fréquence et la gravité de l'infection du sang peuvent également être diminuées en évitant toute manipulation inutile d'une dent infectée pendant son extraction.

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# *Stabilité des Prothèses Partielles*

Chers Confrères:

Permettez-moi de vous exprimer le vif plaisir que j'éprouve de me trouver dans un milieu comme celui-ci. Puis cette réunion me rappelle celles d' il y a déjà plusieurs années et dont j'ai gardé un excellent souvenir. Mon rôle n'est pas celui d'autrefois, cependant je n'ai pas la prétention de vous faire une conférence. Je n'ai pas ce talent et je n'aurais pas accepté l'invitation de votre très obligeant Président si je n'avais pas eu la conviction que je pouvais beaucoup compter sur votre indulgence.

Je viens vous parler de la stabilité, ou, si vous le voulez, de la fixité, de l'équilibre dans nos travaux partiels. Comme vous le voyez, je choisis un sujet plutôt abstrait qui exige d'ordinaire de la compétence. Mais comme le canotier prudent, je me garderai bien de voguer sur des eaux troubles et profondes.

Je désire tout simplement, avec l'aide de quelques notions de physique, faire l'analyse des forces maxilo-dentaires, passer en revue les façons les plus usuelles dont on se sert pour remplacer ou régénérer ces mêmes forces lorsqu'elles ont été annulées dans leur action par l'extraction ou autrement et en arriver ainsi à insister sur le besoin et la possibilité d'une technique qui nous donnera dans une restauration spécifiée les deux degrés de stabilité, à savoir: le degré amovible et le degré inamovible. Je serai de plus très heureux de vous faire voir et de vous donner quelques explications si vous le désirez sur une conception personnelle de ce genre de travail, conception un peu radicale, mais qui n'a pas manqué de donner jusqu'à date d'assez bons résultats.

Le mouvement présuppose une force qui le produit. Toute force veut une source pour l'émettre. Dans une force nous avons conscience de trois éléments: son point d'application, sa direction et son intensité. Le point d'application est le point sur lequel une force agit. Ce point n'est pas toujours sur la ligne indiquant le sens du mouvement. Par exemple lorsqu'une force agit sur un corps solide et indéformable, son point d'application peut être annulé et remplacé par deux ou plusieurs autres points qui seraient les points d'application de nouvelles forces composantes qui remplaceraient la première. La direction d'une force est la ligne de mouvement d'un corps que cette force sollicite à se mouvoir. Dans un plan donné des forces peuvent se diviser en deux catégories: des forces parallèles entre elles et des forces concourantes. L'intensité d'une force correspond à l'effort plus ou moins grand dépensé. Lorsque deux forces, provenant d'une même source sont l'une normale à la direction du mouvement et l'autre oblique, c'est toujours la première, la normale, qui est la plus intensive. Quand plusieurs forces agissent sur un même corps, on désigne ce groupe de forces par le mot système. Dans un système de forces, il est toujours possible de les composer. Le rôle des forces est de mettre un corps en mouvement, de modifier ce mouvement ou bien encore de l'amener au repos. Le repos, la stabilité, la fixité d'un corps sont autant de termes pour signifier son état d'équilibre, la neutralité entre toutes les forces s'exerçant dans les différentes directions. Ainsi dans le cas de ce prisme rectangulaire que je dépose sur cette table,

j'obtiens le repos de ce corps. Cet état d'équilibre est produit par deux forces; l'une, le poids du corps qui se dirige de haut en bas et qu'on appelle force de pression; l'autre égale en intensité (à la force de pression) mais en direction opposée se nomme FORCE DE répulsion. Cette dernière est une force qu'on ne remarque guère mais qui n'en existe pas moins pour cela; son existence a été généralisée sous forme de principe par Newton. On désigne cette force sous le nom de force réactive. Il importe de remarquer en passant que dans le repos de ce corps nous avons de la fixité que dans un sens, tandis que le mouvement libre facile, est possible dans cinq autres directions. Cette fixité nous l'appellerons fixité de résistance. Par état stable de ce corps, on veut habituellement dire que ce corps est soutenu latéralement de chaque côté; que les mouvements à droite ou à gauche, que l'antéversion ou la rétro-version ne sont pas faciles. Cet état de stabilité suppose de la rigidité sur ses quatre sens en plus de celle de la résistance. Cette stabilité est destinée à annuler l'action des forces latérales, nous l'appellerons stabilité latérale. La fixité d'un corps veut de la rigidité dans les six directions. Cet état, en plus des stabilités de résistance et stabilité latérale, possède la fixité de rétention, fixité propre à neutraliser les forces de répulsion. On déduit de ces observations que les forces qui agissent sur un prisme rectangulaire se divisent en trois catégories distinctes, forces de pression, de répulsion et latérales.

Il s'en suit aussi que la stabilité d'un corps comprend trois sortes de stabilité: celle de résistance, de rétention et latérale. Ces données seront utiles pour expliquer les forces maxillo-dentaires et la stabilité dento maxillaire. J'ai choisi le prisme rectangulaire parce que nos travaux partiels, les travaux postérieurs du moins et ce sont ces derniers dont je veux surtout parler, se rapprochent le plus de cette forme géométrique.

Nous avons souvent et d'une façon trop réelle parfois, l'occasion de vérifier l'admirable solidité des dents naturelles. Cette stabilité est d'autant plus remarquable que les dents ne sont pas immuables. Si l'on considère qu'une dent fonctionne dans une position verticale ou quasi verticale et qu'elle est appelée à faire un travail excessif, il va sans dire qu'une union forte avec le maxillaire lui est indispensable. En effet, c'est bien du maxillaire, qui grâce à sa rigidité et à sa conformation alvéolaire, si apte à fournir la stabilité dentaire requise, c'est bien du maxillaire dis-je que les dents reçoivent les forces nécessaires à leur travail. Les dents ne possèdent en elles-mêmes aucun principe d'activité capable de développer les forces. Le ligament alvéolo-dentaire, il est vrai, joue un rôle rétenteur, mais en réalité ne fait que transmettre ces forces rétentives provenant du maxillaire proprement dit. Ce ligament, il est important de le noter, agit comme coussinet pour les forces de pression et les forces latérales. Ce qui fait que malgré l'union intime qui existe entre l'élément dentaire et l'élément osseux, le tout maxillaire n'est pas un tout homogène et que l'intensité des forces qui le traversent n'est pas sans éprouver une variation.

Dans une restauration partielle, il nous faut aussi une union étroite entre le maxillaire et notre pièce. Cette stabilité n'est pas la moindre de nos préoccupations. La cause de nos insuccès ne remonte-t-elle pas très souvent à notre incompétence sur ce point important. Ces insuccès, il est bien vrai peuvent être attribués jusqu'à un certain point, aux insuffisances des sources de maintien dont on dispose, mais il n'est pas moins vrai que notre ineptie à profiter des avantages que ces sources nous présentent n'est pas moins responsable. Comme la raison d'être de la stabilité, est la transmission des forces, il s'en suit que pour bien connaître cette stabilité dans sa nature et pour bien la réaliser dans nos travaux, il nous faut une compréhension adéquate des forces maxillo-dentaires. Ces forces comme toutes les forces d'ailleurs, sont choses invisibles. Pour les connaître, il nous faut les étudier dans leur origine

et dans leurs effets surtout, puis de cette façon nous arriverons à les classifier et à déterminer leur nature élémentaire.

Avec l'extraction des dents, il y a destruction du ligament alvéolaire l'élement si favorable à leur rétention; puis il y a la résorption des alvéoles si aptes à produire la stabilité latérale. L'arcade prend maintenant la forme d'une crête plus ou moins prononcée, recouverte d'une couche gingivale. S'il s'agit de remplacer ces dents par des moyens artificiels, la stabilité requise par ceux-ci devient un point de première importance. Il nous faut des sources de résistance, de stabilité latérale et de rétention. La crête gingivale demeure une source plutôt favorable à la résistance, mais faible comme intermédiaire de stabilité latérale et nulle comme médium de rétention. Pour compenser à l'insuffisance de cette dernière source, il nous faut avoir recours aux dents adjointes et très souvent à des sources que l'on peut désigner sous le nom de sources supplémentaires, telles les surfaces linguales des dents restantes, l'arcade continguë à ces surfaces et la voûte palatine. La dent, il est bien compris, possède la fixité idéale, que ce soit en resistance, en stabilité latérale, ou en rétention. En plus de la fixité nécessaire à leur propre fonctionnement, on y trouve en général une réserve considérable. Nous avons ici une autre preuve de la munificence de la nature. De cette réserve il nous importe de tirer partie d'une manière judicieuse dans nos travaux.

Examinons maintenant la stabilité telle qu'on la produit dans nos ouvrages coutumiers.

C'est dans le pont fixe que nous reproduisons la stabilité qui se rapproche le plus de la stabilité naturelle. La stabilité nécessaire aux dents artificielles est soutirée de celles des dents avoisinantes. Ici nous faisons de la substitution. Nous compensons pour le travail accompli auparavant par les forces propres à la crête gingivale en augmentant l'intensité des forces transmises par les dents adjointes. Ceci est fait au moyen d'union rigide des dents artificielles avec des "inlays" ou couronnes: ces dernières étant ensuite cimentées aux couronnes des dents naturelles. Plusieurs se plaignent et non sans raison que la rigidité et le surcroît de travail imposé aux dents naturelles est tout à fait dommageable; néanmoins il ne faut pas se porter à l'exagération. L'éxpérience du passé et c'est un argument de valeur, nous prouve que des dents plutôt saines chez des personnes en santé répondent très bien à de telles impositions et que cette méthode de faire n'a jamais été un empêchement sérieux au bon travail. Le côté défectueux de ce genre de construction reposerait plutôt dans le fait qu'il est difficile d'assurer les facilités hygiéniques requises. La chose est surtout vraie lorsqu'il s'agit de dents postiches. Et aujourd'hui même, il y a une foule de conditions où même les dessins de dents artificielles les plus nouveaux n'enrayent pas cette insuffisance. Tout de même, il est raisonnable d'affirmer que là où les conditions s'y prêtent, lors qu'un dessin approprié a été choisi et qu'un ajustement précis est en évidence, nous pouvons compter sur un résultat appréciable. C'est bien l'inamovibilité des ponts fixes avec leur comfort et leur durée subséquente qui a rendu ce travail si populaire dans le passé et ce sont ces mêmes avantages qui promettent de rétablir sensiblement la préférence qu'ils ont perdue dans ces dernières années. Pour ceux de la profession qui ne sont pas satisfaits des résultats qu'ils obtiennent avec la couronne et le pont fait en morceaux je leur recommanderais d'essayer la couronne et le pont coulés dans un seul morceau. Il n'est certainement pas si difficile que plusieurs semblent le croire. C'est assurément un travail très intéressant.

De nos jours le travail amovible jouit d'une prépondérance marquée tant chez les dentistes que chez le public. Par une telle préférence, plusieurs ont cherché du point de vue hygiène une amélioration dans leur service. L'idéal est tout à fait louable et il n'y a pas de doute que la cause de l'hygiène a bénéficié de l'emploi de

ce type de travail. Le simple fait de pouvoir enlever ses dents pour les nettoyer présuppose une propreté absolue. Puissions-nous enlever nos dents naturelles pour cette même fin, les plus méticuleux dans ce soin ne manqueraient pas de réclamer un résultat plus complet. Mais s'il y a un progrès du côté hygiène peut-on attribuer à ce même genre d'ouvrage l'efficacité désirée quant aux exigences si importantes de la stabilité requise?

Quand, il y a quelques années, le pont fixe tomba en si grande défaveur, l'introduction du pont amovible en fut surtout la cause. L'acceptation si prompte de ce type de pont par un grand nombre de la profession fut pour le moins déconcertante pour ceux qui discernent avec plus de lenteur. Ce pont eut tellement de vogue que des confrères comme le public, ignoraient tout bonnement l'arriéré qui ôsait parler du pont stationnaire. On a même trouvé dans ce travail qui nécessitait plus de caractère de permanence, une preuve irrécusable qu'il n'est pas nécessaire au dentiste de faire sa mécanique et que le contrôle dans la bouche était considéré chose secondaire. Si cette méthode eût produit le résultat idéal qu'on voulait lui concéder, de tels préconiseurs auraient eu raison. Mais tout n'est pas si facile. Comme l'on devait s'y attendre, l'enthousiasme exubérant d'hier a considérablement diminué et les obstinés défenseurs du pont fixe vont maintenant trouver de la consolation et peut-être un peu d'amusement dans des commentaires de cette teneur. Revisant le contenu d'un traité sur le bridgework, récemment publié, un correspondant de l'Oral Health remarque au sujet du pont amovible que celui-ci ne déplacera pas en toute apparence le pont stationnaire pour des espaces courts, mais il y a des circonstances où le pont amovible semble avantageux. Le Docteur Moore nous dit que le pont détachable s'emploie bien, là où il y a beaucoup de tissu à remplacer. A mon humble avis une pièce détachable est surtout désirable là où les dents sont exceptionnellement courtes.

Pour être juste, le pont amovible possède à un fort degré, les attributs propres à une construction idéale. Il est hygiénique, comfortable, pas trop lourd et de bonne apparence. Au premier abord les exigences de la stabilité semblent bien pourvues. La stabilité nécessaire est obtenue comme dans le pont fixe. Dans ce type nous faisons encore de la substitution. La différence se trouve dans le fait que les moyens d'attache, les crochets au lieu d'être cimentés à la dent, y sont superposés et maintenus en place par l'élasticité du crochet. Malheureusement, cette méthode ne pourvoit pas dans la trop grande proportion des cas la protection nécessaire à l'émail et dans trop peu de temps sa désintégration est presque toujours une conséquence de cette déficience. N'est-il pas étrange que ce défaut n'ait pas été prévu? Quoiqu'il en soit cette préférence exagérée donnée au pont détachable ne sera pas en vain si cela fait mieux ressortir l'importance des deux points suivants: 1° Lorsque la surface d'une dent est soumise au travail excessif qu'entraîne la stabilité, elle requiert en retour d'être protégée. 2° Que dans les restaurations partielles, les facilités d'hygiène doivent être mises au premier plan et dans les cas où ces facilités ne peuvent être suffisamment assurées par le degré de fixité, on doit avoir recours au degré amovible. On nous suggère de recouvrir les dents avant d'ajuster un pont détachable. C'est presqu'un retour au pont fixe. L'idée, quoique compliquée, a probablement du bon. Après tout, il est évident que la solution de nos problèmes de restaurations partielles n'est pas dans une méthode idéale, unique, mais bien dans l'adaptation précise de nos différents types aux conditions multiples qui nous sont présentés.

Dans le dentier partiel nous faisons de la régénération en plus de la substitution. La crête nous fournit la résistance alors que la stabilité et la rétention sont obtenues au moyen de légers crochets et par une construction bilatérale. Il arrive parfois qu'une construction à plaque n'est pas bilatérale, mais elle ne donne satisfaction que

pour trop peu de temps, les crochets fins devant fournir la stabilité en plus de la rétention. La "bilatéralité" est essentielle pour le dentier partiel. Du fait de son poids et de sa plus grande étendue, cette construction augmente de beaucoup la stabilité. Sa rétention en profite également et au point que l'on peut quelquefois se dispenser de crochets. Ces derniers sont cependant le plus souvent indispensables. Comme ceux des ponts amovibles, ils ont souvent un effet désastreux sur les dents. De plus leur flexibilité fait qu'ils cèdent très souvent avec le dentier sous la pression des mâchoires pour s'enfoncer dans la gencive causant ainsi de l'irritation et le retrait de cette dernière. Il est aussi couteux de produire la stabilité latérale au moyen de la bilatéralité, surtout où celle-ci s'effectue avec appui. Ce recours entraîne plus d'amplitude et conséquemment de l'encombrement et ce qui est plus encore le déracinement des dents restantes. On peut ajouter que plus de surface veut plus de soin d'hygiène. Aussi dans bien des cas la bilatéralité n'est pas pratique, et parfois même ne peut être appliquée. En premier lieu, si la bilatéralité est effectuée sans appui antérieur, notre pièce est toujours sujette à de l'antéversion à moins d'avoir recours à une série de crochets nouveaux. Puis les axes des arcades sont en général convergents entre eux de bas en haut, soumis à la pression, ces arcades perdent toujours le niveau qu'elles avaient lors de la prise d'empreinte. Il s'en suit que dans une construction bilatérale, les axes du dentier, qui ne changent pas correspondent plus ou moins avec les axes des arcades. Là où la déviation est trop prononcée, il y a malaise, et usure de la crête, et ceci peut expliquer pourquoi beaucoup de gens se refusent aux dentiers partiels. Evidemment si le principe de bilatéralité a des avantages, il a par contre de sérieux inconvénients. Nous avons dans ce recours, sinon la plus grande, une des principales causes qui rendent tant de partiels des non-réussites. En effet ce type de travail comme nous le savons tous n'est pas toujours un succès. Le partiel du haut quoique encombrant donne généralement satisfaction, mais il en est autrement pour celui du bas. D'après le docteur Kennedy qui est une autorité dans ce genre de construction, quatre-vingt-cinq pour cent de ces restaurations de la mandibule sont des insuccès. Vous en convenez, c'est un pourcentage trop élevé.

En deux mots nous pouvons prétendre—1° que malgré leur stabilité idéale, les ponts fixes sont souvent inacceptables pour cause d'hygiène; ceci est surtout vrai dans les conditions où les dents sont très courtes.—2° Si nous nous soumettons amplement aux règles d'hygiène dans les ponts amovibles, nous ne pouvons dans une trop grande majorité des cas produire une stabilité d'assez longue durée.—3° Que les dentiers partiels manquent très souvent de donner le résultat attendu et que la bilatéralité à laquelle nous avons recours pour assurer la stabilité latérale requise est un moyen qui occasionne toujours un certain malaise et parfois des suites si dommageables qu' il serait alors préferable d'éviter toute construction plutôt que d'employer ce principe.

L'examen de ces faits conduit naturellement à se demander. 1° S'il ne serait pas possible de faire d'une manière plus effective sur les mandibules l'emploi simultané des sources, la source dentaire et la source gingivale, et s'il ne serait pas possible surtout de faire cette double exploitation sans avoir un recours continuel à la bilatéralité. 2° S'il ne serait pas possible dans bien des circonstances de dessiner une construction qui renfermerait à la fois le degré fixe et le degré amovible afin de diminuer, de cette façon, les lacunes excessives de ces deux degrés lorsqu'ils sont employés séparément.

1° *Question.* On fait un usage conjoint des sources, soit quand les dents restantes ne sont pas assez nombreuses, soit quand ces dents ne sont pas disposées avantageusement, soit encore quand elles n'ont pas la réserve stabilisatrice voulue pour faire de la substitution efficace. Ce double recours nous est imposé à cause de

notre impuissance à exploiter la crête gingivale pour de la rétention et pour une quantité suffisante de stabilité latérale.

Parce que les sources sont de nature dissemblable, parce qu'on ne peut à volonté appliquer tel ou tel élément de la stabilité à l'une ou l'autre source, parce que les differents éléments de la stabilité, exigés en choses dentaires sont d'intensité inégale et que l'action isolée d'un élément ne peut se faire que scientifiquement, l'usage conjoint des sources devient une procédure plutôt compliquée que l'on ne doit pas traiter à la légère.

On remarque en premier lieu qu'il faut toujours recourir à la source dentaire pour de la rétention et que très souvent il faut compter sur cette même source pour de la stabilité latérale. On peut en conséquence diviser toutes les conditions en deux catégories—1° Celles où il est nécessaire d'exploiter la source dentaire pour de la rétention seulement.—2° Celles où il faut taxer la source dentaire pour de la stabilité latérale en plus de la rétention. On conçoit en outre que, pour faire au moyen d'une restauration de la substitution et de la régénération simultanées c'est-à-dire inciter les forces gingivales et dentaires à produire une action coopérative, il nous faut établir la stabilité de cette pièce, et que cette coopération des forces sera efficace en autant que la stabilité produite sera logique et intelligente.

L'art dentaire connaît deux façons de procéder dans ce double emploi des sources: une qui n'a jamais depassé le stage expérimental, l'éstablissement de la connexité proportionnelle; l''autre, celle dont on se sert journellement, la répartition de la stabilité.

De la première qu'il soit dit qu' aucun résultat appréciable n'a été obtenu jusqu'à date et qu 'on ne parviendra jamais à résoudre ce problème de la connexité proportionnelle.

De la seconde, la répartition de trois éléments à deux sources, peut être simple ou composée. Elle sera simple si les éléments sont distribués dans leur entirer à l'une et l'autre source; elle sera composée si un deux ou les trois éléments sont répartis aux deux sources à la fois.

On ne fait, que je sache, de la répartition simple dans nos travaux.

La répartition composée de trois éléments à deux sources peut être totale ou partielle; distincte ou indistincte; égale ou inégale.

La répartition sera totale si les trois éléments sont distribués aux deux sources; elle sera partielle si deux ou un élément seulement est réparti aux deux sources: Si deux éléments sont répartis aux deux sources, cette répartition sera de la répartition composée bipartielle. Elle sera composée unipartielle si un des trois éléments seulement est réparti aux deux sources.

On ne peut faire de la répartition totale dans nos travaux dentaires parce qu'on ne peut exploiter la source gingivale pour de la rétention du moins dans une mesure appréciable.

La répartition sera distincte si l'élément est nettement distribué aux sources, c'est-à-dire qu'il occasionne pour chaque source une action limitée, determinée; elle sera indistincte, si l'élément ne produit pas une action limitée determinée pour chaque source.

La répartition sera égale si une source produit un travail équivalent à celui de l'autre source; elle sera inégale si une source produit un travail plus petit ou plus grand que celui de l'autre source.

S'il eut été possible d'établir la connexité proportionnelle on aurait eu de la répartition composée, bipartielle, distincte, et inégale avec la possibilité que cette répartition eut été égale dans certaines conditions pour les forces de résistance.

Les sources étant de nature differente il serait fort désirable que toute répartition fut distincte; mais ceci ne veut pas dire que toute répartition indistincte n'est pas

tolérable, voire même avantageuse. Comme les éléments de la stabilité ainsi que nous les développons ne sont pas de même intensité, il s'en suit que si la répartition indistincte provient du fait que l'on cherche à produire l'élément le plus faible de la stabilité, cette répartition sera moins illogique que si c'est l'élément le plus intense que l'on veut développer.

Presque toutes nos constructions, comprenant le double emploi des sources, sont des pièces en un morceau. A cause de cela, et parce que la connexité proportionnelle n'est pas réalisable, on ne fait que de la répartition indistincte. Ces pièces cependant ne sont pas nécessairement rigides dans toute leur étendue, et à cause de ceci, les unes sont moins illogiques que les autres du point de vue de la répartition.

Dans la première catégorie des conditions, là où il nous faut trouver de la rétention, le plus faible des éléments, on retire celle-ci de la source dentaire au moyen du crochet. Ici la répartition indistincte sera moins illogique, plus efficace dans ses résultats, que si nous cherchions à développer de la stabilité latérale ou de la résistance. En autre l'illogicité de cette répartition sera d'autant moins grande que le crochet sera fin, élastique. Nous faisons dans cette première catégorie, de la répartition bipartielle indistincte et inégale; je dis bipartielle car l'usage du crochet n'est pas un moyen qui permet de faire l'isolement net des éléments de la stabilité globale; au contraire on ne peut l'employer dans le but de produire de la rétention sans en même temps développer de la stabilité latérale et de la résistance à la source dentaire. Cette répartition produite par le crochet fin, élastique, donne habituellement satisfaction. Nous la réalisons presque toujours dans nos partiels du haut, mais la conformation gingivale ou mandibulaire ne nous permet de la produire que très rarement sur le mandibule.

Dans la deuxième catégorie des conditions il nous faut retirer de la source dentaire de la stabilité latérale, en plus de la rétention. Celle-ci étant plus intense que la rétention, il s'en suit que toute irrégularité, que toute indistinction dans la répartition présentera de plus graves inconvenients.

Dans l'usage conjoint des sources on procède de deux façons pour soutirer la stabilité latérale requise de la source dentaire. 1° On prolonge sa construction de manière, à ce qu'elle s'appuie sur les surfaces linguales des dents restantes, en même temps que sur leur gencive contigüe. Ceci nous donne une pièce massive et rigide. Cette dernière produit non seulement de la stabilité latérale mais aussi une quantité considérable de l'élément le plus intense de la résistance. En principe cette répartition est des plus illogique; au point de vue pratique elle détruit les interstices gingivales, déracine et refoule les dents en dehors de leur alignement. Nous faisons ainsi plus de tort que de bien. 2° On remplace la plaque linguale par une barre linguale métallique. Cette barre, plus confortable, assure la stabilité latérale vestibulo-linguale, mais si la stabilité mésio-distale est de rigueur (Le fait de recourir à la bilatéralité augmente toujours ce besoin) la barre en or est insuffisante dans son action. Compléter cette action, en faisant un appui sur telle ou telle dent, serait conduite aussi inconséquente que celle que j'ai mentionnée dans la première procédure. L'appui, il est vrai, n'est pas toujours rigide, mais l'élasticité qu'il peut avoir est quantité minime, négligeable et certainement au delà de notre contrôle.

On peut conclure que si dans la répartition que nous faisons par une pièce en un morceau il y du bon dans maintes conditions, il y a par contre dans bien d'autres et sur la mandibule surtout, de l'inéfficacité illogique et intolérable. N'aurions nous pas dans cette inéfficacité la raison d'être première de ce fort pourcentage d'insuccès dont parle le Docteur Kennedy? De toute évidence il nous faut dans ces conditions mandibulaires du moins de la deuxième catégorie, une construction qui permettra une répartition, plus distincte, plus scientifique. S'il n'est pas possible de

faire cette répartition par une construction en un morceau, n'y aurait-il pas moyen de la produire par une construction en deux morceaux?

2° *Question.* On se demande en deuxième lieu s'il ne serait pas possible d'avoir une pièce qui renfermerait un double caractère de stabilité celui du degré fixe et celui du degré amovible; une construction qui serait pour ainsi dire un mélange du pont fixe et du dentier partiel. Nous ferions alors de la substitution et de la régénération, ou autrement dit nous aurions recours au deux sources, la crête et les dents adjointes. Pour obtenir les deux degrés de fixité, il faut une construction en deux morceaux.

Il nous faut donc une construction qui renferme les propriétés suivantes, une construction qui soit en deux morceaux: une construction qui veut l'usage simultané des sources; enfin une construction qui présente une répartition comprenant une allocation distincte de stabilité pour chaque source.

Dans une perquisition comme celle-ci il sera bon de bien tenir en ligne de vue: Que les dents sont d'excellentes sources d'attache, desquelles nous pouvons retirer à notre gré, de la résistance, de la stabilité latérale ou de la rétention, tandis que la crête ne peut fournir en quantité que de la résistance; il nous faudra donc autant qu'il est juste, autant qu'il est possible, répartir la résistance à la crête et laisser aux dents le soin d'assurer la stabilité latérale et la rétention: Que les sources sont de nature différente et que l'action provenant de chacune ne sera pas de même intensité, d'où l'importance capitale d'isoler nettement l'une de l'autre l'action de chacune c'est-à-dire produire une répartition distincte.

Des deux morceaux de la construction projetée, l'un sera grand, et l'autre sera petit. Il en sera ainsi pour deux raisons: 1° Si la crête doit autant que possible fournir la résistance, il s'en suit que le morceau qui doit développer cet élément, couvrira la presque totalité de la surface gingivale. Inversement, l'autre morceau sera nécessairement petit, pour ne pas produire de résistance. 2° S'il est d'urgence que le grand morceau soit détachable, pour cause d'hygiène, l'autre morceau s'il est fixe, sera de rigueur très petit. Ce petit morceau sera chargé de soutirer de la source dentaire de la stabilité latérale et toute la résistance requise par les deux parties de la construction. A cause de sa permanence, il nous permettra de pourvoir à la surface dentaire au moyen d'une couronne ou autrement, la protection qu'une pièce détachable ne peut donner. Il est évident tout de même qu'une restauration en deux parties ne sera pas pratique sans union quelconque entre ces parties. Il faut donc les unir, les unir partiellement et non complètement, car alors nous reviendrions à la pièce en un morceau.

Pour fonctionner, chacun des deux morceaux a besoin des trois éléments de la stabilité. Ces éléments sont en eux-mêmes des unités, il sont séparables. On peut très bien établir un lieu dans l'action que produit un élément de chaque morceau sans faire la même chose pour un autre élément. Il va de soi, que cette cohésion d'action se fera entre éléments semblables de chaque morceau et non entre éléments dissemblables à cause de la direction contraire et opposée des forces que transmettent ces derniers.

L'union partielle, tout comme l'union complète veut toujours plus ou moins de rigidité. Cette union partielle sera logique en autant que la rigidité qu'elle entraîne ne dérange en rien au caractère distincte de la répartition, caractère essentiel pour répondre aux exigences des conditions de la deuxième catégorie. Nous avons vu, en effet, qu'une construction en un morceau occasionne toujours une répartition indistincte. Mais cette indistinction ne provient pas seulement du fait que la pièce est une, qu'elle est rigide; elle résulte surtout, de ce que les sources sont de nature dissemblable, que l'action transmise par chacune est d'intensité différente et de ce que l'une des sources, la source gingivale, n'est pas permanente dans sa conformation.

Que ces sources fussent de même nature, il serait possible de produire une répartition distincte au moyen d'une pièce rigide. Il découle de ceci que l'on peut effectuer l'union rigide des deux morceaux de la construction envisagée, basée sur la cohésion des éléments de chaque source, à condition cependant que ces éléments stabilisateurs de chaque morceau émanent de sources de même nature. Il en serait ainsi pour l'union partielle des morceaux. Or, dans les circonstances, nous n'avons jamais des éléments provenant de deux sources de même nature, mais dans la répartition de la stabilité, qu'il nous est possible de faire nous aurons dans chaque morceau des éléments provenant de la même source. Dans la répartition bipartielle nous avons la rétention que nécessite les deux morceaux provenant de la même source, la source dentaire; puis dans la répartition unipartielle nous avons la stabilité latérale en plus de la rétention qui est fournie par cette même source. Donc l'union partielle des deux morceaux de notre construction recherchée, basée sur la cohésion des éléments de rétention dans la répartition bipartielle et sur la cohésion des éléments de stabilité latérale et de rétention dans la répartition unipartielle, est logique en principe et cette union peut se faire sans nuire aucunement à la répartition distincte.

En pratique toute fois l'union que nous permettra la répartition bipartielle, ne sera pas suffisante. D'abord nous voulons que le grand morceau soit amovible, conséquemment on ne pourra développer que peu de rétention; puis, parce que la crête ne peut fournir la quantité de stabilité latérale nécessaire, il nous faudra éviter la répartition distincte de cet élément des deux morceaux. Il nous reste la répartition unipartielle. Dans celle-ci, la répartition se fera nécessairement dans l'élément de résistance; Car il est bien compris que si la source dentaire seule peut nous offrir la rétention et que l'on doit allouer la résistance à la crête, on ne pourra pas avoir d'union entre nos morceaux en faisant de la répartition distincte dans l'élément de stabilité latérale. Donc, dans la répartition unipartielle, celle-ci se fera toujours dans l'élément de résistance et la stabilité latérale et la rétention seront toujours retirées, dans leur entier, de la source dentaire.

Il s'en suit donc que l'union des deux morceaux, comprenant l'usage conjoint des sources, et exigeant une répartition distincte de la stabilité, est logique en principe et que cette construction présentera nécessairement une répartition unipartielle. Pratiquement cette union se fera au moyen de la coulisse. Celle-ci exigera une étude à part.

L'emploi de la coulisse n'est pas chose nouvelle dans nos travaux dentaires:— Gilmour, Roach, Wennstein et bien d'autres en ont fait usage. Mais comment se fait-il, me direz-vous, que ce type de construction a donné si peu de résultats? Je réponds de deux façons: 1° La répartition de la stabilité n'a pas été bien comprise; 2° Là, où cette répartition a été mieux comprise, l'emploi de la dent en porcelaine a été la principale cause de l'insuccès de ce genre de construction. J'ai ici un modèle où je construis la dent qui doit contenir la coulisse, au moyen de ciment synthétique enchassé dans de l'or. Je le soumets à votre critique judicieuse, si l'idée vous sourit et que vous desirez plus de renseignements pratiques sur ce sujet il me fera grand plaisir de vous donner ce que j'en sais.

Lu devant la Société Dentaire

VINCENT MARANDA, D.D.S.

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# *De l'Opportunité de l'Extraction Dentaire au Cours de Stomatites Aiguës*

par J. DENEY

Faut-il ou ne faut-il pas pratiquer l'extraction dentaire au cours des processus ulcéreux? (Cette question a soulevé pas mal de polémiques et les avis demeurent très partagés. Pour beaucoup, ce ne sera qu'après avoir obtenu une amélioration très considérable, sinon une guérison absolue que l'on sera autorisé à pratiquer les extractions que l'on avait pu envisager comme nécessaires et la bouche sera alors débarrassée des dents non soignables ou des racines qui pourraient par la suite servir de cause d'entretien indubitable à la stomatite. Les extractions pratiquées en pleine évolution apporteraient fatalement, d'après eux, une aggravation incontestable du processus infectieux.

Nous étions personnellement de cet avis et nous nous cantonions, en général, dans une prudente expectative jusqu'au jour, tout récent d'ailleurs, où recevant dans notre service un malade atteint de stomatite ulcéreuse aiguë avec altération sérieuse de l'état général, nous pratiquâmes d'emblée l'avulsion de 4 dents du maxillaire supérieur et fûmes très agréablement surpris de trouver le lendemain matin, notre malade complètement transformé. Nous continuâmes les extractions les jours suivants; l'amélioration persista et la guérison complète du malade survint sans que nous ayions noté la moindre complication.

En voici l'observation:

Observation.—Le 10 janvier 1939, l'ouvrier auxiliaire aux C.N., Pierre X. . . ., entre dans notre service avec la mention: "Infection buccale et altération de l'état général, T°, 39°".

A l'examen de la bouche, on constate que les gencives sont tuméfiées et oedématiées surtout à la partie médiane de la mâchoire supérieure où une partie des dents restantes 4, 3, 2, 1 | sont déchaussées, très ébranlées avec suppuration au niveau des collets. Mêmes signes au niveau des incisives inférieures.

On note des petites ulcérations de la muqueuse jugale au niveau des dents de sagesse inférieures et près des commissures labiales. La langue légèrement oedématiée garde l'empreinte des dents sur ses bords.

Les mouvements de mastication et de déglutition sont douloureux et gênés. Il existe surtout une gêne fonctionnelle dans l'ouverture de la bouche. Léger engorgement ganglionnaire.

L'haleine est extrêmement fétide.

L'état général est touché; facies triste et anxieux; température 38°5; pouls rapide mais régulier et bien frappé; urines fortement diminuées: 250 grammes pour la demi-journée.

En présence de signes locaux et généraux aussi accentués, nous pratiquons immédiatement l'avulsion des 4, 3, 1 | très douloureuse aux dires du malade et prescrivons:

Sérum antigangréneux: 20cmc.
Vaccin antiinfectieux Ronchèse: 2 ampoules per-os.
Grands lavages au bock.
Attouchement au bleu de méthylène des ulcérations.
Rubiazol: 8 comprimés.
Potion au chlorure de calcium à 4 grammes.
Thé punché à 40 p. 100: 1 litre.
Tisane bicarbonatée: 1 litre.

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(1) Communication à la Société de Stomatologie de Paris, séance du 18 avril 1939. Revue de Stomatologie, mai 1939.

Le soir, à 16 heures, la témperature a tendance à baisser. Le malade se sent déjà beaucoup mieux dit-il, depuis l'extraction des dents: attouchement des collets des incisives inférieures avec des mèches imbibées d'$H^2O^2$.

Le 11 janvier, c'est-à-dire dès le lendemain, nous constatons une amélioration très nette de l'état général. Le malade a passé une excellente nuit, alors qu'il ne pouvait dormir depuis une dizaine de jours; la fétidité de l'haleine a complètement disparu. Température, 37°5, urines, 500 grammes.

Traitement: détartrage des incisives inférieures et attouchement avec mèches imbibées d'$H^2O^2$; mêmes prescriptions que la veille, mais 15 centimètres cubes seulement de sérum antigangréneux.

Le 13 janvier: l'amélioration continue.

Avulsion des 4 incisives inférieures.

Irrigation syntholée à 50 p. 100 et attouchement iodé.

Suppression du sérum antigangréneux que l'on remplace par du vaccin antiinfectieux Ronchèse intramusculaire: ¼ de centimètre cube.

Le 14 janvier: avulsion de 5 |.

Vaccin Ronchèse: ½ centimètre cube.

Le 16 janvier: avulsion des 8, 7 | suivie d'une irrigation syntholée à 50 p. 100.

La gencive supérieure est en excellente voie de cicatrisation et les ulcérations buccales à peu près guéries.

Vaccin Ronchèse intramusculaire: 1 centimètre cube tous les deux jours.

Le malade commence à s'alimenter.

Les jours suivants nous pratiquons encore l'avulsion des: 8, 7, 6, | 5 | 4

Le malade continue à aller de mieux en mieux et le 17 février il quitte l'hôpital complètement guéri.

Conclusion: Nous n'allons certes pas prétendre, à la suite de ce cas pourtant bien en faveur d'une théorie interventionniste, que, dans toutes les stomatites aiguës, on doit systématiquement et dès les premières heures procéder à l'extraction de toutes les dents suspectes. Bien au contraire, nous estimons que, d'une façon générale et pour éviter les risques d'une aggravation subite peut-être très grave, il vaut mieux attendre une amélioration très nette de l'état général et de l'état local.

Mais nous pensons aussi qu'il est des cas particuliers où l'avulsion précoce et prudente des dents causales peut et doit déterminer la régression rapide du processus infectieux, prévenir les complications dont la plus grave serait l'évolution de la stomatite vers la forme gangréneuse, toujours possible et à laquelle nous devons penser, et amener en définitive la guérison du malade dans un temps beaucoup moins long.

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## *XVèmes Journées Dentaires de Paris*

Le Groupement de l'Ecole Odontotechnique de Paris a l'honneur d'informer nos lecteurs que les XVèmes JOURNEES DENTAIRES DE PARIS se dérouleront du 23 au 26 Novembre 1939 dans les locaux de l'Ecole Odontotechnique de Paris, 5, rue Garancière, Paris (VIe).

Les Confrères qui désireraient présenter un travail ou une démonstration au cours de cette importante manifestation professionnelle internationale sont priés de bien vouloir adresser le titre de ces derniers accompagné d'un résumé de 20 lignes environ, en double exemplaire, à:

Monsieur René SUDAKA, Secrétaire Général des
XVèmes JOURNEES DENTAIRES DE PARIS,
143, Avenue Emile Zola—PARIS (XVème)

# War

THE blow has been struck! Great Britain is at war and therefore Canada is at war. To us the philosophy of Nazi Germany is impossible. To take away the guarantees of life, of law and of liberty, to destroy Christian ethics, to vaunt the spirit of aggression and conquest, to take pleasure in persecution and murderous force, is a picture entirely foreign to the principles of British democracy, and a condition which, if accepted, or even tolerated, would destroy the health and very soul of our Nation. Life is dear, but there are some things of much greater value even than life itself. These are freedom and liberty and the right to live at peace with one's neighbours. To destroy these would mean the destruction of everything for which the Empire stands and for which it has always stood, and would mean the undermining of the very foundation upon which we have built.

The dental profession of Canada stands solidly behind its Government and the Empire in this hour of crisis. Sacrifices may, of necessity, be great but they cannot be too great if they are needed to secure these ideals for which we are fighting at the present time, and if they spare us from falling into the power orbit of Nazi Germany.

In this great conflict we pray that God may intervene; that health and sanity may return once more to this old world of ours, and that we may step forward into a brighter, more hopeful and more generous age.

*M. H. G.*

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# A Preface to Dental Practice*

by EDWARD J. RYAN, B.S., D.D.S., Evanston, Illinois

IN the beginning of a dentist's relationship with the public there should be a preface, *a speaking before.* Before he begins his career, his teachers should speak, telling him what he may expect from a dental practice; what his productive years may be; what earnings he may expect; and how he should integrate himself into economic society. As he begins his career, his colleagues should *speak before,* telling him of the pitfalls in practice and of the public and its attitudes. And finally, throughout his career, the dentist must discipline himself *to speak before* each new patient and *before* performing each operation of an unusual nature—for new or old patients. He should tell his patients, new or old, the stories of the limitations of dental treatment, as well as the possibilities, letting the patients know what their obligations are and how they are to be met. If prevention of dental disease is the professional ideal in dental practice, the prevention of misunderstanding is the economic ideal.

In each community the attitudes of the public to the dental experience may be somewhat different. Only the dentists in a community can inform a new practitioner about these attitudes. These dentists should *speak before.* Even after one is established in the practice of dentistry the likeliest danger that can beset him is the danger of casualness in assuming that people know more than they do about the dental experience, and in taking his patients for granted as if they belonged to him. We should learn early in our career that dental practices are not constant; they are in perpetual flux and flow; the people who come to us are occasionally long-term patients but often they are merely transitory shoppers. When dentists speak possessively of "my patient," they are confusing a human personality with a chattel. It is well for us to remember that our patients are not bound to us by any loyalties other than those we earn, and that each time we lose a patient from practice rather than attempt to justify and rationalize the situation, we should look into the mirror and there find the explanation. Patients do leave dentists — often because of misunderstandings that have arisen between the two parties—seldom because of failure in supplying the professional service. To be sure, some patients are gad-a-bouts and addicted to change. Whenever a new dentist comes to town, he may be expected to reap some of the dubious harvest of these changing patients. Numbering among these migratory people are many who have not developed through the years the habit of prompt payment.

* Read before the Western Canada Dental Society, May 29, 1939.

It would be well if each one of us made it a practice to determine tactfully why the patient left his former dentist. If we were to make this kind of inquiry, we might find some interesting reasons which could be applied profitably to the conduct of our own practices. A record of the failures of other dentists might be a guide to prevent some such failures of our own.

For want of a better name, the subject of patient-dentist relationship has been called the study of dental economics. Many abuses have been committed in that name. The object of dental economics is twofold: the satisfaction of social needs and the attempt to show the dentist a method of making a decent and honest living. Dental economics, therefore, is divided into two phases: external and internal. The external problems are those that exist outside the dental office and are concerned with the need, the desire, and the ability of society generally to buy dental care. The internal problems comprise those human relationships that exist in the practice of dentistry and the mechanisms that are used to maintain these human relationships between the dentist and his patient on an understanding basis.

We may define the subject thus: Dental economics is concerned with the position of the dentist in workaday society; his efforts to make a living, and the internal problems of his business and its management. The subject may also be defined and classified by indicating what it is not. Dental economics is not concerned with fraud, with false claims, with misrepresentation, with high-pressure selling, or with extortionate and spectacular fees—except as these evils affect the dental economy from without and must be combated from within by sound dental dealings. Any suggestions that are made to dentists for the precarious improvement of their practices, based on such unsound premises, do not represent good economics or good business, but are sheer and outright economic deceptions.

### Fear of Price

Looking at it in its broadest fashion the dentist has something for sale, a service that has three important values health, appearance, and comfort. The public for the most part accepts these values and agrees that all are important. Sometimes, however, a barrier exists between the producer and the consumer, usually because of the fear of pain and the fear of price. Modern dentistry should have eliminated the first fear, but the second still prevails. To overcome the fear of price is an educational task that is not insurmountable. The average amount of money spent for dental care in the United States is about one cent a day per person. If this amount could be increased to five cents a day, the price of which is equivalent to the price of a morning and evening paper or the price of a package of gum, we could safely guarantee to supply adequate dental care to all the people.

With the growing popularity of group hospital plans, people are going to ask increasingly why the services of physicians and dentists cannot be included under the insurance principles. Although compulsory forms of insurance for dental care would be cumbersome, we can set up voluntary plans of our own to be put into operation immediately in our individual practices. Once a mouth is put in satisfactory and healthful condition, we can unhesitatingly undertake the maintenance of the health of that mouth by dental premiums of five cents a day.

### Human Personality

We may further break down this kingdom of economics to examine it both as a dismal science and as a genial art. As a science, there are its laws of

EDWARD J. RYAN

production, consumption, and distribution; the theories of value and price; studies of the personal distribution of wealth, and the imposing figures of the cost accountant and statistician. The genial art is concerned exclusively with the behaviourism of the human personality. Economics does not comprise merely the graphs and charts and figures of the economist, but it is also concerned with the living man who has desires and impulses, fears and prejudices. "Man, as known to the specialists," says Alexis Carrel[1], "is far from being the concrete man, the real man. He is nothing but a schema, consisting of other schemata built up by the technique of each science. He is, at the same time, the corpse dissected by the anatomists, the consciousness observed by the psychologists and the great teachers of the spiritual life, and the personality which introspection shows to everyone as lying in the depth of himself. He is the chemical substances constituting the tissues and humours of the body. He is the amazing community of cells and nutrient fluids whose organic laws are studied by the physiologists. He is the compound of tissues and consciousness that hygienists and educators endeavour to lead to its optimum development while it extends into time. He is the home economicus who must ceaselessly consume manufactured products in order that the machines, of which he is made a slave, may be kept at work. But he is also the poet, the hero and the saint. He is not only the prodigiously complex being analysed by our scientific techniques, but also the tendencies, the conjectures, the aspirations of humanity."

### Patient-Dentist Relationship

The genial art of dental economics represents the attempt on the part of the dentist to convey the story of dentistry to the profit of both contracting parties. When one party alone profits, it is not a good transaction. In considering this art of patient-dentist relationship, there are no pocket manuals to follow, no books that one can read on how to win patients and influence attitudes, no lec-

tures that one can attend which will tell axiomatically how to transform an economic failure into a success.

A few are born with the gift of understanding people; others have it thrust upon them; still others never reach it at all. But we can all strive to be alert and observant, to make the attempt to understand personalities totally unlike our own, or at least to understand those aspects of a personality with which we must communicate in our daily lives—only rarely can more than that be grasped, because "although we possess the treasure of the observations accumulated by the scientists, the philosophers, the poets, and the great mystics of all times, we have grasped only certain aspects of ourselves. We do not apprehend man as a whole. We know him as composed of distinct parts, and even these parts are created by our methods. Each one of us is made up of a procession of phantoms, in the midst of which strides an unknowable reality"[2]. We must try to come closer to that reality.

This is a preface to dental practice, a foreword of suggestions. There is nothing final about it. It is merely a statement of a few fundamental practices that have been found moderately successful in the experiences of some dentists. In this presentation the emphasis is on human relationships rather than on the mechanisms or techniques in dental practice. We should not forget for a moment that the person who comes to us seeking the dental service comes in a degree of fear, seeking something which he often cannot see and which he cannot understand, and the price of which is unknown to him. The product that he buys is un-standardized. He has no basis of comparison unless it is a fallacious one. He must throw himself on the mercy of his dentist, with the firm hope that he will receive a service that is satisfactory and that the price of that service will be fair. Too often the dentist in his zeal to do something, to create something, has plunged in to perform an operation without explaining to the patient the nature of the service, the need for or significance of the procedure, or the price involved.

Patients have neither the training nor the critical faculty to evaluate the technical finesse of a dental procedure, but they do know whether they have been treated fairly and with consideration. No one ever heard a patient say that he left a dentist because the gingival margins of his inlays were unsatisfactory, or because the dentures were not in balanced occlusion, or because the vertical dimension of the face had been changed somewhat as a result of dental treatment. People leave dentists usually because of personality conflicts, not necessarily of an overt kind. Their personality conflicts, more often than not, arise from misunderstandings. The patient expected one thing from the dental treatment and received something contrary to his expectations; or, he expected to pay so much for a given service and found that it was more than he had anticipated.

## General Economic Factors

Before examining in greater detail some of the situations that are confronted in dental practice, it may be well to examine, at least in a sketchy fashion, some of the general economic factors that lie behind dental practice. The dentist regards the practice of dentistry as a vocation for which he has been specially trained; as a business from which he hopes to make a living; and frequently, as a way of life that gives him a feeling of accomplishment and a sense of satisfaction. Generally speaking, the dentist is prepared to practice the science and art of dentistry; nearly always, he is unprepared to conduct the business of dentistry. From this failure to make a living,

the dentist loses his zeal and his interest, and thus, the vocation, as a way of life, is destroyed.

If economics in its broadest interpretation represents the effort of man to make a living, dental economics is the effort of one unit of the economic order —the dentist—to make a living. Dental economics should represent an attempt to co-ordinate the specialized economic problems of the dentist with the contemporary tendencies in society. Dentists do not practice in a vacuum. They are part of, are being influenced by, and are influencing other units in economic society. They are both producers and consumers.

It has been suggested that the dentist is concerned with three values in human life: health, appearance, and comfort. The economic service that the dentist has to offer has value and price in proportion to how and when and where these services are produced. The type of service that the dentist offers is of a personal kind which has two values: an objective value which implies exchange value and subjective value which implies that the value is something above and beyond a quality that exists in the thing itself. Dental services are economic goods which are classified as personal services and which have a subjective value. It must be strongly emphasized that dental services should not be evaluated in terms of material things or in terms of their objective value. For example, a gold inlay offered as a material thing and priced at an objective or exchange value as a piece of gold is worth a dollar or two. What gives it value and steps it up in price to fifteen or twenty dollars is the time and skill represented in its processing and construction and the significance of the service that it performs. The less said, therefore, to the patient about the materials, the better. The value, to repeat, exists in the skill, the knowledge, and the time represented in the service that is performed.

### Fees

This service that the dentist offers carries a price, and all price is determined in four general ways: by public authority, by monopoly, by custom, by competition. To date there is no commerce commission to establish the rates for dental fees; moreover, there are no large dental trusts with a monopoly on dental practice and the power to set prices. Custom, unfortunately, still determines the fees for some dental services. In certain towns, neighbourhoods, and other geographic areas, custom, without any consideration for production costs, establishes the fee for dental services, and custom also has decreed that certain services shall be free: postoperative care following extractions, perpetual adjustments of dentures, and relief of pain are among the gratuitous services that are given away as a result of custom. Competition is the accepted price determinant, and competition is a perfectly proper method of price determination, provided all cost factors in production are considered.

It is possible that a dentist in a given locality may have a low operating cost, so that he can profitably produce good dentistry at a lower cost than a dentist in other localities who for various reasons must have higher fees. Each dentist must know his own production cost and only after his production costs are established should he set his fees. The competitive or comparative fee so established may be higher than that of a neighbouring dentist or it may be lower, but whatever it may be represents what this dentist must charge to make the profit that he has established as necessary for his standard of living. To produce dentistry at a loss is a vicious business practice. Unfortunately the dentist is one of the few persons in economic society

who can operate in bankruptcy year in and year out without knowing it.

### Production Costs

What should the dentist try to determine when he examines his production costs? We have found that the dentist is offering for sale a professional service rather than a material thing. That which he offers for sale is his skill, his knowledge, and his time. Skill and knowledge, although of the first importance in practice, are intangible and immeasurable. Time would seem to be a scientific unit of measurement. How much time has the dentist for sale? First, he would be surprised to know that he has fewer hours for sale than he thinks. There are approximately 250 production days a year of between four and six production hours each, or roughly 1000 to 1500 production hours a year. Or stating it another way, the dentist offers for sale, about 100 production hours each month. Production hours, it must be emphasized, do not mean hours spent in the dental office but the hours that are gainfully employed; that is, the time that is spent in the actual practice of dentistry. Nonproductive time is that devoted to telephone calls, visiting, correspondence, bookkeeping, and the following of the custom in dental practice of giving certain services free of charge.

On the basis of 100 production hours per month, let us examine a typical dental practice of, let us say, $500 gross monthly income. The expense in this practice, both fixed and variable, is approximately 40 per cent. The $500 divided by the 100 hours equals a gross income of $5.00 per production hour. The $200 expense divided by the 100 hours equals an expense item of $2.00 per production hour. The net profit of $3.00 per production hour, multiplied by 100 equals $300 per month net income or the dentist's salary of about $75 per week. From this salary the dentist is to amortise the cost of his education, keep himself and his family in the position that is expected of the professional man, buy his own sick benefit and life insurance, pay for his own vacations, and set aside a competence for his own social security protection against unemployment and old age.

The productivity of the dentist, unlike that of other professional men, is limited. His productivity begins about his twenty-fifth year and sharply declines about his fifty-fifth year. Accidents or the mere expressions of the aging process that affect his vision or his manual dexterity are quickly reflected in his productivity. The dentist is occupied almost exclusively with doing fine mechanical procedures in barely accessible places on living parts. His span of productivity is not so great as that of the physician or the lawyer who can conceivably continue in practice if blind or physically handicapped. The dentist's salary of about $75 a week from a gross annual practice of $6000 represents his earnings at about their peak. There are no stock bonuses, no pensions, no dividends, no unearned increment, no visions of a corporation presidency, no hopes of a great and spectacular expansion of his business to brighten his years. His is always a one-man activity. To be sure, there are intangible rewards in a dental practice, chief of which are independence of action and a wide latitude of possibilities to be of service to society. But inasmuch as this is a presentation on economics, we cannot let the intangible rewards overshadow the tangible.

Out of his $75 a week, the dentist is to accumulate the funds for an independent old age. He can save little or nothing the first five years of his practice or until about his thirtieth year. He then has, barring accidents, loss of eyesight and nervous exhaustion, twenty-five years in which to accumulate his com-

petence. If his average salary is $75 a week for twenty-five years, which it probably will not be, how much can he save each week and what will his estate be at his fifty-fifth year? Enough to retire? Perhaps—if he has escaped the tricksters, the blue sky security men, and the shadows of ill health and misfortune along the way. But at the best, his retirement will be a modest one: no villas on the Riviera, no amphibian planes, no directorships in large corporations.

True enough, there are many dentists who have a larger gross income than the dentist in this exhibit and there are many who have a longer span of productivity. But this typical case is cited in the earnest hope that it will arouse dentists to see the total picture of their economic lives.

Out of the earnings of $75 a week, it was said that the dentist must set aside a competence for his old age. If he begins his saving program at the age of 30, he should prepare to have his plan reach maturity at 55, or at the age when acute diminishing returns in dental practice can be expected to begin. By persistent, regular, and sytematic accumulation, by small allocations from his earnings, he can build an estate. Figuring on the conservative interest yield of 3 per cent compounded annually the dentist at the age of 55, or after 25 years of regular saving, may build an estate of $19,584, by weekly savings of $10. By saving $15 a week, beginning at the age of 30, his estate will be $29,376 in 25 years. Savings of $20 a week will yield an estate of $39,168 at the retirement or approaching-retirement age of 55.

It is probably a distinct shock to learn that the dentist's average net income is only about $75 a week. This figure is inexorably controlled by the rise and fall in national income. In those years when national income produced is larger than national income paid out and positive business savings result, the dentist, in common with every other producer in economic society, profits. For example, in the year 1929, the national income produced in the United States was 80 billion dollars which fell to 48 billion dollars in 1932. The per capita net income of dentists in the United States in 1929 was $4564, whereas in 1932 it had shrunk to $2787. This contraction in the income of dentists is in about the same proportion as the contraction in national income. A recent publication of the United States Department of Commerce[3] indicates that in the year 1937 the average net income for practising dentists was $2914 which is definitely less than $75 a week.

There is no attempt being made to depress the morale of members of the dental profession by showing them this true picture of their earnings. The realistic portrayal of the economics of dentistry is attempted solely so that dentists may strengthen themselves and improve their business practices and set up earning and savings programs that will protect them against the vicissitudes of old age.

### Successful Practice

Now that we have examined the dentist's productive years and his earnings, let us look at him objectively as a person. We are constantly struck by the paradox of success in dental practice. Too frequently the poorest qualified is the most successful financially, and conversely the best qualified is least successful.

A dentist emerges from the cloister of the dental college into practice, prepared in a fashion to carry on the technical and scientific procedures in dentistry but entirely unprepared to meet the public in the competitive economic system in society. He has suffered under delusions and fallacies, often inculcated by dental college teachers themselves. He has been

told that if he gives good service "the fee will take care of itself." Within the walls of his college, he has been inflated with his own super-importance; he has been made to believe that the public pays an homage to professional men unlike that paid to other people in economic society. Added to this unrealistic economic training, the young dentist has the traditions of a conservative profession to overcome. With the combination of inflated ego, of lack of information, and his tethering to tradition, he enters practice under handicaps that could have been prevented. He expects patients to accept his services sight-unseen and price-unknown. He expects to give opinions and does not expect any contrary comment. He expects his services to be accepted on faith alone. He is always annoyed when he is placed in the position of a competitive bidder. He is irritated when the patient asks for some assurance of the length of service that may be expected of a dental restoration or appliance. These annoyances and irritations that the dentist expresses when he meets the public could frequently be prevented if he were told early in his career that the degree of "Doctor" does not confer anything upon him except a specialized knowledge and a responsibility.

### The Dentist as an Educator

In the competition for the consumers' dollar, other producers of goods and services make strong efforts to attract the public and to encourage them to divert part of their incomes for these goods or services. The public, therefore, expects to be sold; it expects a competition among the producers and distributors for the dollar to be spent. The public does not see the dentist as he sees himself, as someone monastic and detached from economic life, but as merely another producer anxious for a share of the dollar. If the dentist isn't aggressively anxious to receive part of this dollar and if he doesn't show just and good cause why his services are of more economic value than those of some other producers and distributors, we cannot blame the public for spending its funds in other places. The dentist must be an educator. If he himself believes that the service he offers has values, he must be prepared to tell the public vigorously what these values are: that these values are concerned with life and health, with appearance and happiness, with comfort and with well-being. It is neither unethical nor undignified to tell people the story of dentistry; it *is* unethical and unfair not to tell them. If we know that our efforts are concerned with these life values, we owe it to the public to educate the people to these values. Thus the moss-backed, hide-bound traditionist is grossly in error who says that it is unethical on the part of the dentist to gain the attention and interest of the public and to stimulate thought about the importance of dentistry. We owe it to the public as teachers and doctors to tell the truth and if we believe that dental care has greater values than other wealth-expending functions, it is our duty to say exactly that. Whatever method of education is used — whether it is done *en masse* by the methods of modern communication and publication or as individualized and personalized efforts in the dental office, it should be repeated again and again that the theme of our story must be educational, and not mere salescraft.

Education is the effort to enlarge the field of knowledge and of appreciation. Salesmanship, on the other hand, is concerned with the distribution of a certain product, usually by a certain person to his immediate advantage. In education there is not the element of time. We are interested in showing patients and poten-

tial patients what in the long run and over the long pull is advantageous to them and to their families and to society generally. Moreover, education is not interest in mere monetary gain. There is hardly any story in the world which should have a wider appeal than the story of dentistry. Dentistry is concerned with treatment of a disease from which virtually every person suffers regardless of his economic or social origins. It is a disease that causes disfigurement and suffering. It is a disease that can be treated effectively and well; it is a disease that oppresses man literally from the cradle to the grave.

Patients are entitled to hear this story and it is our ethical responsibility to tell it. Why should people not be told what we are trying to do for them? Why should we not take them into our confidence and outline treatment to them as we expect them to take us into their confidence? There is nothing that the dentist himself buys that he does not ask to see, that he does not ask to feel, that he does not price.

At the moment of the dental operation the procedure planned or in execution is the greatest thing in the patient's life. It is his body that is being worked on and he has a right to know in general terms, at least, what the dentist is attempting to do. There is no one so ignorant that he isn't interested in himself and his own organism. There is nothing more important to me as a patient than my disease. "Disease is a personal event. It consists of the individual himself. There are as many different diseases as patients."[4] Dentists should bear this fundamental fact in mind and the more we can personalize and tell the patient what his case is and what we are going to do about it, the more likely we are to win his confidence. One of our crying faults is our indifference to the other fellow's toothache; our failure to recognize how important the dental disturbance is to the person who is experiencing it. "The physician (and the dentist) must clearly distinguish the sick human being described in his books from the concrete patient whom he has to treat, who must not only be studied, but, above all, relieved, encouraged, and cured. His role is to discover the characteristics of the sick man's individuality, his resistance to pathogenic factors, his sensibility to pain, the value of his organic activities, his past, and his future. The outcome of an illness in a given individual has to be predicted, not by a calculation of the probabilities, but by a precise analysis of the organic, humoral, and psychological personality of this individual . . . medicine (and dentistry) when confining itself to the study of diseases, amputates a part of its own body."[5]

Thus we are first going to tell the public (preferably that part of the public who are already our patients and are in the dental chair) the story of dentistry; then, we are going to personalize that story as it affects the particular person and his particular condition. That means we are going to tell patients what our diagnosis is and will not submerge the essence of the diagnosis in jargon with confusing referents or in technical terminology; but we will state in the simplest and most universally understood terms what we are attempting to do. So far, in educating, diagnosing and prescribing, we have fulfilled our professional obligations to the patient, but our obligation does not end here. The patient is entitled to have a prognosis. We should futurize the case and acting from our experience and observation in similar cases, tell the patient clearly what he may expect from treatment. Promise nothing. Be dogmatic about nothing. Remember constantly that only the charlatan is sure.

### Biological Aspect

We have no control over dental caries, although we treat the condition by empirical, mechanical methods rather successfully. We do not know the entire story of the forces that operate to produce malocclusions, but we do know that the disfigurement of most children can be corrected by skilful orthodontic attention. We do not know what causes periodontal disease, although we have effective methods of treatment in select cases. We do not know why the ridges change under dentures nor can we anticipate or tell exactly what the rate of this change may be. We are dealing with biology coupled with mechanics. If we were dealing with biologic processes alone, we could depend somewhat on the powers of self-repair of human tissue, but in addition to biologic processes, we have to depend on the forces of mechanics in our treatment. This places a double hazard upon us. We are building mechanical appliances on living parts which in itself is unlike the work of any other technician. Like the surgeon we cut human tissue, but unlike the surgeon we do not have beneficent Nature to aid us in many of our recoveries. Like the jeweler, we must be accurate in our skills, but unlike the jeweler who works on inanimate objects alone, we work on parts of the human anatomy, often in scarcely accessible locations and always in highly innervated parts, intimately connected with the human personality. Dental caries is a disease. "Disease consists of a functional and structural disorder . . . in illness the body preserves the same unity as in health. It is sick as a whole. No disturbance remains strictly confined to a single organ."[6] Dentists treat disease conditions by mechanical methods and every procedure is concerned intimately with the human personality. If we fail to appreciate the importance of this human relationship, we are much more likely to fail in practice than if we fail to perfect some technical skill. A physician or dentist "must study the individual as well as the disease. The distrust which the public feels toward medicine (and dentistry), the inefficiency, and sometimes the ridicule, of therapeutics, are, perhaps, due to the confusion of the symbols indispensable to the building up of medical sciences with the concrete patient who has to be treated and relieved. The physician's (or dentist's) lack of success comes from his living in an imaginary world. Instead of his patients, he sees the diseases described in the treatises. . . Moreover, he mixes the concepts of principle and method, of science and technology. He does not realize sufficiently that the individual is a whole, that adaptive functions extend to all organic systems, and that anatomical divisions are artificial. The separation of the body into parts has so far been to his advantage; but it is dangerous and costly for the patient, and ultimately for the physician (and dentist)."[7]

### Patient Obligation

Dentists must tell patients the nature of the job they are doing; how long it will last; what service it may be expected to give. Give no guarantees or assurances, because human life and human responses are unpredictable. Finally, dentists owe it to patients; it is their ethical *must*, to tell them what their obligations are. The dentist who feels that there is something unprofessional about quoting fees, lives himself in an economic society where as a consumer he asks over and over each day in his purchasing moments, "How much is this?" and "What is the price of that?" As a consumer the dentist asks the price when he himself expects to buy. When the dentist turns producer, he should certainly expect the patient to make the

same queries. In a capitalistic system there is nothing undignified about that. And should the patient, because of tradition or timidity fail to ask this question, "How much is this going to cost me?" it is the dentist's ethical responsibility to tell him, because by telling him what his obligations are, he is strengthening that structure which prevents misunderstanding, and the prevention of misunderstanding is the economic ideal in dental practice.

Grievous offenses have been committed in the name of the Golden Rule, but the basic philosophy underlying this Rule has never been improved in the history of man and probably never will be. It filters into every aspect of our lives including dental practice. No day should pass that the dentist does not say to himself, "What would I do, what would I want to know, what would my reactions be, if I were on the receiving end of the dental instrument?" (Parenthetically, too many dentists are too seldom to be found in the dental chair at the receiving end of the dental instrument.) Would we like some casual fellow to do something that we could not see, on extremely sensitive tissue, without his making any effort to explain his procedures? Would we like to be coming for long weeks of treatment without having the remotest idea of what our obligations are? We certainly would not. So when we talk about ethics, we mean the application of this Golden Rule to dental practice. We would make no mistake if we paraphrased it to read, "Do unto the patient as you would have done unto you," and this includes not only what you do for him professionally and scientifically but also what information you give him and what your financial understanding is.

We see the dentist as a victim of unrealistic training, plodding along in the traditions of his professional forbears, often having a hard time to make both ends meet. On the other side, we see the public, needful of dental care, suffering for lack of it. The task is to bring the producer and the consumer together. Whatever method we use to bring them together, so that both may profit from the transaction, is a good method. The paradox of idle chairs and idle hands and thousands of people in need of care is not a happy one. It would not be accurate to say that the obstacle between the two parties is a mental one, because there are hard financial reasons to keep some people from buying dental care. On the dentist's part, however, a great deal of difficulty arises from his attitude toward his patients, his indolence in his methods of education, in his laziness in not presenting the case of dentistry to the patient effectively. This professional slothfulness, this failure to make the most of opportunities at hand, goes back to the false pictures that he has had painted of himself by his dental college teachers and by his pious colleagues who speak as if dentistry were some calling separate and distinct from human activity. "The problem before the dental profession," says George W. Crane, "is not filling the tooth but filling the dental chair."

### The Attitude of The Consumer to The Service of The Dentist

Two fears stand out in the patient's mind when he thinks of the dental experience: the fear of price and the fear of pain. These have been mentioned before and they are repeated because they are too often justified. We fear most the unknown. As soon as we find out that a given service or product is something that we can or cannot afford, we have reached a definite conclusion and can decide immediately whether we can or cannot buy. So long as the product is surrounded in our consciousness with

qualities of the unknown, the fear that it is outside of our purchasing ability, that fear itself will keep us from making inquiry. We can, for example, pass an exclusive jeweler's shop and see a broach or a strand of pearls or a ring which may look extremely expensive. We are likely to associate that piece of jewelry with the exclusive reputation of the store and the tales that we have heard regarding the costliness of royal jewels bought there. Thus immediately we decide that we could not, by the longest stretch of the dollar, afford that piece of jewelry. Such associations that we make keep us out of that store and thus a possible sale is lost. Now, if we had made inquiry, we might have found that that which attracted our eye so favourably was, indeed, not rare and precious but was very much within our ability to buy. A merchant knows this simple truth, this deterrent to purchase, and tries to overcome it by making some statement of price. The swanky establishment will make a statement of price indirectly, such as, "You, too, can afford fine things." Other shops make a direct dollars-and-cents appeal.

We as dentists cannot and certainly should not follow in the steps of the advertising dentist and make price statements, but we can tell people the truth of dental costs and dispel some of the misconceptions from their minds. We can show, for example, that if everyone were to budget five cents a day the American people could receive an adequate and sufficient dental care. At present the American people spend about one cent a day for dental care! By increasing this to a nickel, everyone would be properly served. We can dispel the fear of price among the population generally and certainly among patients in our practices. The dental experience is frequently a catastrophic economic one, because it is not budgeted for and because it is not a pleasurable experience. All of us would rather spend our money in the pursuit of pleasure than in the obtaining of painful, even if beneficial, experience. By its very nature, dentistry cannot be made an attractive entity to people but if the fear of price is dispelled by showing that price is the penalty of neglect, and that simple, early, preventive services are not costly, we will coincidentally destroy the fear of pain as well as the fear of price, because the pain in the dental experience for the most part comes from a neglected, complicated condition, and not from the correction of the simple conditions.

I should like to end this presentation with a simple slogan, a slogan that is intended to prevent misunderstandings, one that is intended to state clearly the objectives and the truth concerning dentistry. If the philosophy of this slogan is applied diligently in practice, it should be of value to every dentist and to every patient: DENTAL NEGLECT COSTS MORE THAN TREATMENT: IN PAIN, IN TIME, AND IN MONEY.

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*In reading, it is not quantity so much that tells, as quality and thoroughness of digestion.—Sir Arthur Quiller-Couch.*

# *Human Relations in Practice Management*

by D. A. McCARTEN, D.D.S., Winnipeg, Manitoba

LOOKING over a recent issue of "Oral Health", I noticed the following: "In these highly competitive times it seems a pity that a dentist should lose patients because he fails to appreciate the importance of details."

I am sure that most of us agree that these are highly competitive times. Whether it is caused by the rapid increase in the number of dentists in the country, or the scarcity of money, or the multiplicity of luxuries flaunted before the eye of the public with their high pressure sales and credit schemes, or whether it is poor salesmanship on the part of the profession, I do not know for sure, but the older I grow, the more certain I am of that great truth written by Ecclesiasticus long ago, "He that despiseth small things shall fall by little and little."

When one reflects for a moment on the history of dentistry, or the things we have tried on the public during the last quarter of a century, such as: "Wholesale devitalization" with its trail of illness and misery; the seamless and other ill-fitting crowns and bridge work that have been placed in the mouths of many patients; mummifying and desensitizing paste; hecolite dentures (with their blisters); the jumble of faulty technique which we have tried on the people for full denture construction: I say—when one considers this bit of history, one cannot but marvel at two things:

1. The patience of the long suffering public.
2. The progress that has been made by the profession in so short a time.

In fact, the progress from the standpoint of theory and technique has been so great that we have increased vastly the cost of dental training; we have educated ourselves in schools, clinics and conventions right out of reach of a large percentage of the public. What the result will be we do not know, but this I believe, that while we have had our minds on theory and technique, we have somewhat neglected the study of "Human Relations", a very important aspect in managing a dental practice.

In these days of fast moving events, when a much larger percentage of the public are acquiring a higher education through our modern schools, universities, radio, travel, etc., it behooves each one of us to examine carefully our method of treating our patients from a psychological or human standpoint. Our reason for so doing is not that we may win a patient from our confrère, but that our treatment of the public, with whom we come in contact, shall not only help us to enlarge our practice, but add dignity to the profession, avoid unpleasantness, and help us, in years to come, to retain the friends we have already made.

Some time ago, the Chicago University, The American Association of Adult Education, and the United Y.M.C.A., made a survey at a cost of $25,000.00, of a representative community, to discover what adults wanted to study. They found, to their surprise, that the prime interest was health, and next to that, the people wanted *to develop skill in human relations.*

Investigations and research made a few years ago under the auspices of the Carnegie Foundation uncovered an important and significant fact, a fact later confirmed by additional studies made at

the Carnegie Institute of Technology. This was that even in such technical lines as engineering, about 15% of one's financial success is due to one's technical knowledge, and about 85% due to skill in human engineering.

In discussing this subject many years ago, the late Dr. A. E. Webster attributed the fact that certain people who enjoyed large practices had an inexplicable magnetic personality rather than exceptional technical ability. He gave as an example the case of a certain student in the college some years previous who he said was the world's worst dentist, and yet he always had a line-up waiting for him in the infirmary while many of the other students couldn't secure enough patients to finish the work required by the school. The professors were astonished at the so-called magnetic personality of this boy, and tried to discover the secret. It couldn't be price, said they, because that was controlled by the school. It couldn't be good looks, or good dentistry, for he was a stranger to both, but he was the essence of courtesy, full of consideration for others, and always had a smile for the humblest individual who came to see him.

When dealing with people, says Dale Carnegie, we must remember that we are *not dealing with creatures of logic,* but *creatures of emotion,* bristling with prejudice and motivated by pride and vanity. While we are all tarred with the same stick, the individual who grasps the significance of this great truth, and acts on it, is master of the situation, and not only will it mean sunshine in his life but cash in his pocket.

### The New Patient

When a brand new patient in Winnipeg or the surrounding community comes to visit one of us professionally, I am sure it is done only after careful consideration. Perhaps for weeks that lady, shall we say, has talked to her friends and neighbours about intending to go to the dentist when she gets enough time, and that perhaps means when she saves a little more money for *you.* She picks *you* because her good friend, Mrs. Brown, said you were such a wonderful dentist, and Mrs. Brown said you were a *wonderful* dentist *because* you extracted a tooth painlessly for her, or rendered some other bit of commendable service. The point is that out of a community of about three hundred thousand people, she is the only one, for about three days, who has selected you, out of one hundred and seventy-five other dentists, to do her work. (They say that if you average a new patient, with any considerable amount of work to do, every three days you are doing well.)

She has selected you for reasons in the following order:

Because Mrs. Brown recommended you.

Because you do not hurt much.

Because you are kind and courteous.

Because you are a good dentist.

When the patient telephones for an appointment, she may ask for the doctor. Don't have your assistant say "The Doctor is busy, would you like to make an appointment?" She feels rebuked right away. If the assistant, in a diplomatic tone, says "Well now, Dr.—can't very well leave what he is doing at the moment, could I give him the message?" The patient then usually admits that she wants an appointment. The assistant now asks two questions consecutively; "When would be the most convenient time, Mrs. Green?" and "Are you in pain?" These two questions usually release a volume of information, and give the assistant the opportunity of going to some trouble to make that first engagement, even if it requires the adjusting of other appointments.

D. A. McCARTEN

### Arrival of The Patient

When the patient arrives, be expecting her. Don't leave her standing in the waiting-room or sitting there among strangers. Remember that while she may not show it, she may be nervous. She is a stranger in a strange place. She is to meet a strange dentist, and perhaps will have to decide important questions about her mouth. The assistant should approach her with a smile and *call her by name;* take her coat and put it on a hanger; enter into conversation with her and diplomatically find out who referred her to you and get a rough idea what she expects done. Find out where she lives, how long she expects to be in town if from the country, etc. and make out a chart detailing this information. Remember, this is the only new patient you may get for three days. Treat her as though she were in your living-room at home. Then let the assistant say, "The Doctor will see you in a few minutes, Mrs. Green," and proceed to obtain the chart of the patient who referred her, thus permitting the doctor to refresh his memory as to what was done for her, what fee was paid, how it was paid, where she lives, etc. When the new patient is ushered into the operating room, *smile* even if it cracks your face. Call her by name and ask her to give your best regards to Mrs. Brown. Search your brain for an opportunity to pay some deserving compliment to the lady who referred her. While you are washing your hands ask this "Is there any tooth in particular that has been bothering you, Mrs. Green?" That question will usually bring forth another volume of information.

While you are making your examination, if there is considerable work to be done, several questions are before your mind.

1. What type of work or how much can she afford?
2. Shall I allow credit if asked?
3. Shall we mention money at all?

### Fees And Credits

Now, if the patient says, "I want these teeth all fixed up the best way you know how," without asking the fee, I say "That's fine, Mrs. Green, and I suppose you would like to know approximately how much it will cost. Now, this is

what I would like to do for you, and it would cost approximately so much." Perhaps you have by this time made an injection to remove an offending tooth and you had better not hurt her if you want that job.

If it appears that the fee is a stumbling block, suggest a less expensive type of work to be done now and the rest later. When you have arrived at a satisfactory solution, you must do some fast thinking as a result of your short acquaintance and decide whether you are going to give this patient credit or not, for she may ask that question in the next breath. If you decide against credit, say so now in as diplomatic a manner as possible. "Well, now, Mrs. Green, I am very sorry, but the cost of the material, etc. is so high and the fee I have quoted you is so close, that we just can't do it. Perhaps if we took care of this tooth or teeth which are bothering you, the rest could wait."

If you decide to give credit, do so freely, but not flippantly. "Yes, Mrs. Green, I think you and I can arrange that all right. Now what deposit could you conveniently pay, and how would you like to arrange the balance?" If she says "What deposit do you expect?" "Well," I say, "Our usual arrangements are half down and the balance spread over two or three months." When she accepts or modifies this, mark it on the pad in your hand as she states it and hand that slip to your assistant with the casual remark "Will you fix up Mrs. Green's chart as we have arranged just now."

When dismissing the patient, I say "The assistant will arrange another appointment when it is convenient for you, Mrs. Green." This she does at the desk in the other room after admitting my next patient. She helps the lady on with her coat, calls a taxi if desired, and reviews the financial arrangements, makes a receipt for the deposit, if paid that day, and asks if she would kindly initial the stamped chart. This is what is stamped on the chart: "I acknowledge the above account of $85.00 and will pay as follows" If she says she will bring the deposit next time, cheerfully say "That will be all right" and don't press her to initial the chart that day but do it when she pays the money.

When you have the stamped chart initialled, you have the equivalent of a note. The written acknowledgment of the account is the important thing. Of course, the people who are asked to sign the chart are only those strangers who are expecting you to give them considerable time to pay and *you feel that they will only pay if strict business methods are used* and now is the time to get a clear understanding.

Next, put through a charge for the work done today for Mrs. Green, and a slip to remind yourself to *send Mrs. Brown a card of thanks.*

Now, many of the new patients, of course, are people you can't ask to sign a chart or even expect them to make a deposit. You don't question their ability to pay. You are indulging in bad business, perhaps, but at the same time you are practising a profession and suffering from faulty precedent. The great percentage of your patients are sons and daughters of regular people who come to get a little work done and never mention money. You do the work, send the bill at the end of the month, and receive a cheque sooner or later. But once in a while some one fails to pay. What shall we do? You have been the essence of courtesy. You have rendered a good service for them. You have charged a reasonable fee. Well, here is what I do.

### Collection Procedure

Send the account twice. During the following month, let the assistant phone

once in the most diplomatic manner possible. If no phone, write a letter:

Dear Mrs. Jones:

Would you be good enough to phone me or call at the office on receipt of this note. No doubt some unforeseen incident has prevented you from taking care of your account with us at the usual time, but a word from you would be appreciated.

Yours truly,

If there is no reply, now write:

Dear Mrs. Jones:

We are disposing of your account to the Board of Adjusters, 205 Sterling Securities Building, on May 1st. We are sorry to cause you any additional expense, but since we have no system for handling extended accounts, this is your authority to negotiate with the above firm after that date.

Yours truly,

Let the doctor keep as far removed from the responsibility of collecting accounts as possible. I mean let it be done by a diplomatic assistant, and when she fails, dispose of the account to the collecting agency. Assume that it is beneath your dignity to dun people. This is the way to make bad friends and that is the one thing you don't want to do. One enemy will do more harm than can be offset by many satisfied patients.

*Never do or say anything that will mislead the patient into fearing you are more concerned about the money than the service.*

Don't be trying to reform odd people who make low-brow statements such as:

Do you guarantee your work, Doctor?
How much does it cost to fill a tooth?
That filling that you put in fell off.
Do you have to *file* my teeth, etc?

### Broken Appointments

I question exceedingly the practice of charging for broken engagements. You may think you get away with it, but I believe you lose in the long run. Human nature was evolved through millions of years and we all know there are a few more years to go before any of us are perfect. Would it not be better to tack it on somewhere else, or take your loss and say to the patient, "Mrs. Jones, perhaps some other time of the day would be more convenient for your next appointment." After all the successful fellow is the man who can treat all comers as though they were all ladies and gentlemen and get paid for it.

### Patient Interest versus Self-Interest

Don't talk too much, and when you do talk, let it be something of interest to the patient; their teeth, their game, whether it be golf, badminton, or hockey, their family, their holidays, *but not yours.* If you want to please people think of *their* interests. Train yourself to become interested in people. Carnegie says "There is nothing in the world I like better than strawberries and cream, but when I go fishing up in Maine every spring, I don't bait my hook with strawberries and cream, but I use worms and flies. I think of what the fish like and that is the best way to go fishing for men."

This self-interest which we all possess is a very natural thing indeed, and I doubt if we would survive very long if we didn't possess a goodly amount of it, but the trouble with most of us is that we fail to feel and show sufficient interest in the other fellow for our own good. We should keep it in mind constantly for it is surely a great mark of civilization.

Alfred Alder, the noted psychologist, says "It is the individual who is not interested in his fellow men who has the greatest difficulties in life and proves the greatest injury to others. It is from

among such individuals that all human failures spring."

General Directions

Keep your office clean. Decorate often. Pay particular attention to the selecting of nice curtains for your windows. Women, for some reason, notice curtains sooner than walls or expensive equipment. Sterilize instruments, and change drinking cup *in view of the patient.* Have some suitable literature on "How to build sound teeth, diet, etc." ready to hand that anxious mother when she asks you why Mary's teeth decay so. Take time to explain what you know and see that she gets the information.

Phone the patient today for whom you extracted that tooth or teeth yesterday. Ask how she is, even if you are quite sure she is all right. Phone her anyway.

Don't get ruffled when that extraction proves difficult. Don't cuss your luck or your assistant. Deliberately exaggerate your coolness and your courtesy to the assistant. This will help to prevent alarm on the part of the patient regarding your ability and prove a help in the operation.

Hand over that scrap gold to the patient without being asked for it. If she forgets it now, she will think of it later. Remember Abraham Lincoln walked five miles to refund an overcharge of six cents. People think much of that little thing and will tell it for years to come.

Resist the temptation to hug pretty girls even if they have been good in the chair. They may tolerate it, but they seldom like it. If you want to hug somebody, stick to your wife. She may not like it either, but you are on safe ground. You have the license.

Don't argue anything with anybody, ever. Leave that to the lawyers, they are the only people who ever get paid for arguing.

Call people by their names. If you are poor at remembering, have your assistant put a type-written slip of paper on your cabinet each day with the names of your patients in order. Their name is the sweetest word in the English language to them. Call it easily, and you have paid the owner a very subtle and effective compliment. Forget it or misspell it, and you have placed yourself at a sharp disadvantage. When you see your name in print or hear it called in a public place, it startles your nervous system. Your name means more to you than all other names in the world put together.

Trade in that old pipe if you smoke one. It takes a long time to cleanse your mouth after smoking a stale pipe, and one is apt to get careless. A high smelling breath will drive patients away sooner than high fees.

Never in any way pass unfavourable criticism of the other fellow's work. It reacts like a boomerang. Look for an opportunity to compliment the other fellow on something.

Philosophers have been speculating on the rules of Human Relationships for thousands of years, and out of all that speculation, there has evolved only one important precept. It is not new. It is as old as history. The founders of Taoism taught it in the valley of Han twenty-four centuries ago. Buddha preached it on the banks of the Ganges five hundred years B.C. The sacred books of Hinduism taught it a thousand years before that. The Nazarene taught it among the stoney hills of Judea nineteen hundred years ago, and summed it up in one great thought, probably the most important rule in all the world. It is the very essence of proper human relations and the surest practice builder known to the profession. "Do unto others as you would have others do unto you."

# *The Effects of Systemic Disturbances Upon the Dental Tissues. II. Hypothyroidism*

by S. LEONARD ROSENTHAL, D.D.S., Philadelphia, Pa.

IN A previous report (1), the author commented on 315 individuals who were under regular periodic observation for three or more years. Of these, 234 were in good health while 81 had some systemic disturbance. It was observed that caries and gingival disease were more prevalent in the latter group than among those enjoying normal health. A summary of the findings included:

AVERAGES

315 cases recorded to date: 234, good health; 81, poor health.

| | Good health | Poor health |
|---|---|---|
| Age | 31 | 43 |
| Cavities, first visit | 2.4 | 3 |
| Visits per annum | 3+ | 4+ |
| Cavities per annum (excluding first visit) | 1.1 | 2.7 |
| I. Periodontoclasia | 30 or 12% | 30 or 37% |
| II. Cases averaging more than 2.5 cavities per annum | 3 or 1% | 36 or 44% |
| Groups I and II | 33 or 14% | 60 or 74% |

*Note.* Groups I and II, those cases averaging higher than 2.5 cavities per annum, or positive for periodontoclasia, or both.

Although numerous studies have been made on the thyroid gland, little has been written concerning the effects of hypo- and hyperfunction on the adult dental tissues. Tempestini (2) noted increased susceptibility to caries in cases of hypothyroidism. He believed that hyperactivity resulted in paradentosis. Hutton (3) found a high caries susceptibility and a pyorrhetic diathesis in hypothyroidism. Kugelmass (4) found chronic caries in six cases of hypo- and two cases of hyperthyroidism. Ruspa (5) after examination of seventy cases, believed that variations greater than ±20 resulted in paradental disease.

The present study is of nine cases of hypothyroidism which were under periodic observation for three or more years except where noted. Each patient presented himself for prophylaxis and examination at least four times per year, several reporting six times in that period. A full mouth x-ray study was made annually. Diagnosis of all cases was made by a physician after the basal metabolic rate was established. By common consent of endocrinologists, this is normally placed at ±10. A finding above +10 is considered as indicating hyperfunction; below —10 as hypofunction.

Patients suffering from more than one disease have been counted under both.

| No. Cases | Disease | Average Cavity per annum | Periodontoclasia |
|---|---|---|---|
| 12 | Diabetes mellitus | 0.4 | 100% |
| 6 | Cardiopathy | 0.8 | 50% |
| 1 | Carcinoma | 0.8 | 0 |
| 6 | Skin affections | 1.2 | 0 |
| 6 | Neurological disturbances | 3.7 | 0 |
| 9 | Tuberculosis | 6 | 0 |
| 12 | Endocrine disturbances | 3.5 | 0 |
| 9 | Kidney lesions | 4 | 33⅓% |
| 1 | Prostatitis | 2.4 | 100% |
| 6 | Diseases of blood | 4 | 0 |
| 9 | Gastro-intestinal | 4 | 66⅔% |
| 9 | Sinus and tonsillar infections | 0.9 | 100% |
| 25 | Normal pregnancy (classified as a good health) | 1.2 | 0 |

Case 1, a female of 21 years with a B.M.R. of —17, first consulted me for treatment of three anterior teeth in which the pulps had degenerated under shallow and well protected silicate fillings. Root canal therapy failing, these teeth were extracted and replaced by a fixed bridge with three-quarter crown cast abutments on the maxillary cuspids. This functioned without perceptible change for five and one-half years when the x-ray revealed areas at the apices of the abutment teeth. Root canal therapy again failed, and these teeth were extracted.

During the six years she has been under observation, 41 new cavities de-

veloped—an average of almost 7 per year. The enamel of all teeth is etched and lusterless, especially at the cervices. Despite good oral hygiene, there is a chronic gingivitis. The saliva is thick and ropey. The administration of thyroid extract has not prevented the B.M.R. from dropping to —19.

Case 2. Male 17 years old. One cavity was present at his first visit. 43 additional cavities were found in the following 15 years. Caries was rapid and many pulps were involved. Upon exposure of the pulp under local anaesthesia, they were readily removed in one piece with all their branches by grasping the coronal portion with cotton pliers. Root canal therapy failed in every instance, often with resorption of the root. (Fig. 1)

Figure 1

Only the anterior roots now remain. The gingivae are chronically inflamed. Taken at my request, the B.M.R. was found to be —22. Thyroid extract was taken at the direction of the family physician for six months, then discontinued without change.

Case 3. 18 year old female with a B.M.R. of —23, has been under thyroid extract therapy for three years without change in the rate. Six carious spots were present at the first visit; 9 additional spots formed in the ensuing four years. The gingivae are normal.

Case 4. Male. 17 years old. He is apparently in excellent health. 27 cavities formed in 13 years. There is an occasional marginal gingivitis which is easily controlled but invariably recurs. Taken at my request, the B.M.R. was —27.6. Thyroid extract was prescribed by his physician, but was discontinued because of unpleasant side effects. The following year, 3 new cavities developed.

Case 5. Female, 19 years old. 3 cavities were present at the initial visit. 10 additional developed in the next 8 years. During the next 2 years, 8 new cavities were formed and the pulps of two molars lost their vitality under shallow inlays. There was a persistent chronic gingivitis; which, despite treatment and conscientious home care, never disappeared for longer than a month. Becoming negligent for a short time, the patient developed a chronic Vincent's infection. The pulp of the maxillary right cuspid became putrescent although the crown was free from filling, caries, or traumatic occlusion. It was an apparently sound tooth. (Fig. 2) As in the

1934 1935

Figure 2

molars, treatment failed and an acute abscess necessitated extraction.

Taken at my request, the B.M.R. was —20. Thyroid extract was administered and the B.M.R. was raised to —3. The following year, there were two new cavities; and during the subsequent twelve months there were none, although the interval between visits has been in-

creased. The gingivae are now pink and firm.

Case 6. A male, aged 38, presented himself for consultation. His history was one of monthly visits to the family dentist when new caries was usually discovered. The body temperature was constantly 97° F. Well constructed mesio-occluso-distal restorations were present in all posterior teeth and cervical fillings in almost every tooth. Six teeth had been lost and replaced by a gold partial denture. A marginal gingivitis and thick, ropey saliva completed a picture similar to case 1. Taken at my request, the B.M.R. was —21. Six new carious pits had formed on the lingual surfaces of the molars.

Thyroid extract raised the basal metabolic rate to —2, and the next twelve months found but one new cavity although the patient was able to report only twice in this period for prophylaxis and examination to his dentist.

Case 7 was a female of 34 years. She has taken thyroid extract for four months raising the B.M.R. to —14. It was impossible to obtain previous readings. Fillings are present in all but the anterior teeth, and three teeth have been extracted.

Case 8. Female, 22 years old. She had eight carious cavities and a marginal gingivitis at the first examination. In the eleven years which followed, 21 new cavities appeared, 12 in the last five years of this period. During this latter period, two non-vital teeth which had appeared normal at each annual x-ray study, developed areas. Acute symptoms made extraction necessary, The B.M.R. then taken was —19. Administration of thyroid extract changed this to +1. In the eighteen months which have elapsed since that date, no new caries has been found.

Case 9. Through the courtesy of Doctor William Forrest Bell, I quote the following: J. B., male, 15 years of age, had multiple gingival and interproximal cavities of chalky white decay. An acute gingivitis and pharyngitis was controlled with difficulty. Suspecting a metabolic disturbance, Doctor Bell requested a basal metabolic test. The rate was —28. Under thyroid extract therapy, the B.M.R. became —4. During the following two years, no new cavities developed.

A summary of these nine adult cases gives an average of 3.1 cavities per annum and 77% gingival disturbances. In 66 2/3% pulps of two or more teeth were involved, in one instance in a perfectly sound tooth.

The appearance of most of these patients was similar: slightly overweight, easily fatigued, slightly subnormal temperature; thick, ropey saliva; marginal gingivitis; lusterless enamel at the necks of many teeth; rampant caries; death in pulps under normal or shallow fillings; failure in attempts at root canal therapy. Not all cases had all these symptoms but fit into the general picture. It may be noted in passing that in five of the cases, the request for a basal metabolic rate originated with the dentist as the patient was not under medical care and hypothyroidism was not suspected.

In the four cases which responded to the administration of thyroid extract by re-establishment of a normal metabolic rate, the oral cavity became normal.

*Medical Arts Building.*

1. Rosenthal, S. Leonard. Effects of systemic disturbances upon the dental tissues. Dental Cosmos, 1931. 73:1158-1161.
2. Tempestini, O. Il comportamento delle tiroide, della preipofisi, della paratiroidi e delle capsule surrenali nella carie dentaria e nella paradentosi atrofica. La Stomatologica, 1932. 30:1017-1055.
3. Hutton, J. H. Relation of endocrine disorders to dental diseases. J.A.D.A. 1936. 23:227-236.
4. Kugelmass, I. N. Dental caries in children. N. Y. State J. Med. 1937. 37:20.
5. Ruspa, F. Variazioni del metabolismo basale nella paradentosi e nelle paradentiti. Stomatologia, 1937, p. 607.

# Practice Management

## Dental Fees

THE fee a dentist receives is not in exchange for a cartload of merchandise, but is for services rendered; it can never, therefore, be in the nature of a price. In the celebrated action for libel, raised in 1877 by Whistler against Ruskin concerning the "Nocturne," acquired at a later date by the National Gallery for two thousand guineas, Whistler acknowledged that he had completed this picture in two days. The Attorney General thereupon remarked "The labour of two days, then, is that for which you ask two hundred guineas?" Whistler's reply was "No, I ask it for the knowledge of a lifetime." That is what a professional man's patients receive. If a dentist adopts salesmanship tactics, then he invites barter. That is, instead of recommending, in a dignified straight-forward manner with reasons, the treatment he considers best, he advances specious arguments to persuade the patient to consent to a more expensive, but not more efficient type of restoration, merely because it entails a larger profit to himself. Although it is proper to be remunerated adequately for one's services, provided a patient's circumstances render this possible, it is not easy to justify the insidious commercialism, so prominent today in the practices of many who regard themselves as ethical. — *By J. Menzies Campbell, of Glasgow, in Br. D. Jour.*

## The Big Bad Wolf

WE CHANCED to dine the other night with a lawyer of considerable experience in the field of malpractice. Between courses, he remarked with relish that his business in malpractice cases was increasing daily. Then, remembering himself, he tried to atone by recommending the following course of conduct for the dental practitioner who finds himself in such a plight:

If threatened by a patient or his attorney, imitate the Sphinx. Don't mention your insurance. Doing so can easily be misconstrued, and it may come up at the trial to plague you.

Don't admit your liability, either. What you may think doesn't count anyway. Let the court decide. And avoid animadversions about the ability of your colleagues. All too many malpractice suits have their roots in such thoughtless remarks.

On the positive side, you can assist by keeping records. These should reveal the date and exact nature of every treatment rendered. Litigation often arises years after the service in dispute was rendered. Without adequate records, a lawyer has nothing on which to build a defense.

In cases involving a correct diagnosis, an x-ray should always be taken to support the dentist's diagnosis. More and more courts are demanding x-ray proof in malpractice cases nowadays. Lack of such proof may be fatal to your cause.

"There's a big, bad wolf in everyone's life," said the attorney, as we pushed back our chairs. "In the dentist's life, it's malpractice. But if a dentist observes the precautions I've mentioned and is careful generally, he should be able to keep well out of harm's way."—*A.D.A. News Release Service.*

# Problems in Practice

Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

**PROBLEM FROM ONTARIO**

I have a child patient, 6 years of age. His permanent molars have not yet erupted. All the deciduous teeth can be saved with little effort, except the lower right second molar which has a large cavity and is abscessed. What should be done with this tooth?—*M. V. J. Keenan, D.D.S., Sudbury.*

**REPLY FROM NOVA SCOTIA:**

The abscessed deciduous tooth should be removed. Possible occlusal complications as the result of this are not sufficient warrant for maintaining an active source of infection in a child's mouth.—*W. W. Woodbury, D.D.S., Halifax.*

**REPLY FROM NEW BRUNSWICK:**

I believe that the abscessed tooth should be extracted. After eruption of the six year molar a space retaining wire might be necessary. I am sorry to say that I have not been very successful in treating abscessed deciduous teeth as advocated by quite a number of prominent dentists.—*Howard W. MacDonald, D.D.S., St. John.*

**REPLY FROM QUEBEC:**

I would strongly advise that a heroic attempt be made to treat and save this lower right second deciduous molar. I have been informed that deciduous teeth usually respond well to treatment.

Unless this space is guarded the incoming first permanent molar will drift mesially to the detriment of the second bicuspid, so that normal mesio-distal relationship of the first permanent molars on that side will be lost and the second bicuspid imprisoned.

If only this tooth can be saved until the first permanent molar erupts sufficiently to bear a space retainer to maintain the space until the second bicuspid erupts, then the offending tooth can be done without, but until then, my advice is "Dentist bend your back and save that tooth and avoid orthodontic complications later on."—*A. W. McClelland, D.D.S., Montreal.*

**REPLY FROM QUEBEC:**

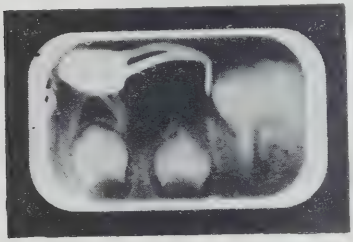
The likelihood of being able to put this abscessed deciduous molar in a healthy condition again and to expect to keep it so for the length of time it would normally be kept in the mouth, appears to me to be too remote to warrant making any effort to save it. I would favour its extraction.

The six year molar is practically due to erupt and when it has done so a space retainer may be placed in an effort to allow for the more normal development of the jaw.—*John S. Common, D.D.S., Montreal.*

**REPLY FROM ONTARIO:**

Due to the possible effect locally upon the developing permanent tooth germ as well as a possible systemic effect upon the individual, the extraction of an abscessed right second deciduous molar is usually indicated. Following extraction and after the presence of the permanent successor has been revealed roentgenographically, a satisfactory space

maintainer may be made as follows: A restoration for the right first deciduous molar may be cast in gold, Children's Inlay or Randolph Metal, to the distal surface of which may be soldered two wires, one buccally and the other lingually slightly occlusal to the contact point. These may be joined in front of the erupting six year molar and after the gum tissue has been cauterized, bent gingivally to touch the mesial surface of the erupting tooth. The accompanying roentgenogram (Fig. 1.) shows a similar



case from practice with this type of space maintainer in position. The wire is soldered near the occlusal surface of the restoration to prevent over-eruption of the opposing second deciduous molar. Following the eruption of the six year molar, a more uniform space maintainer attached to a band on this tooth may be constructed. Of course, the congenital absence of the permanent successor obviates the necessity for space maintenance following the removal of an abscessed second deciduous molar.—*G. Vernon Fisk, D.D.S., Toronto.*

**REPLY FROM SASKATCHEWAN:**

I would suggest that an attempt be made to drain the abscessed right molar, opening up the pulp chamber and washing it out well, and inserting an oil of cloves dressing. Repeat this procedure until the draining is complete; then use a mixture of thymolized calcium phosphate and formocresol (fairly thick mixture) and pump into canals and pulp chamber and fill with copper cement. If this procedure fails extraction is the only alternative.

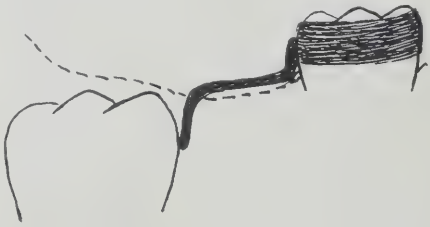
—*W. W. Irwin, D.D.S., Moose Jaw.*

**REPLY FROM ONTARIO:**

I would say "Extract it." Absorption of infection holds more potential dangers to the child's health than are likely to occur from complications due to the loss of the tooth.—*R. D. Thornton, D.D.S., Toronto.*

**REPLY FROM MANITOBA:**

In dealing with this problem the first consideration is the health of the patient and undoubtedly the right deciduous second molar should be extracted. The second consideration is the prevention of malocclusion. At this age, if nothing is done to guide the first permanent molar into its correct position it will erupt mesially and leave insufficient space for the second bicuspid to erupt. A space retainer should be made and inserted.



If the extraction is done under a local anaesthetic a colloid impression and bite are taken at the same sitting, but if a general anaesthetic is used the impression would have to be postponed for a few days. A cast overlay is made on the deciduous molar and an 18 gauge wire is attached to run distally, as shown in the diagram. This wire should run along the expected contour of the gum in order to avoid strain of occlusion which would

loosen the appliance. This should be left on until the second bicuspid is erupting or until the interdigitation of the upper and lower first molars prevents any mesial drifting. — *Douglas L. Brown, D.D.S., Winnipeg.*

**REPLY FROM ALBERTA:**

I believe that all abscessed teeth, whether temporary or permanent, should be extracted. However, in this case, I would make an exception for a few months and try to keep the temporary molar until the upper and lower permanent molars on this side were erupted and locked in position by their cusps.

I would thoroughly open the abscessed molar, remove the putrescent pulp, dress the pulp chamber, and by the use of hot packs applied to the face, try to remove all active inflammation.

If this failed, I would extract the temporary tooth and watch the permanent molar as it erupted, to see if it required a space retainer. — *Leslie T. Allen, D.D.S., Lethbridge.*

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*The longer a man can remain steadily dissatisfied with his work*—steadily *dissatisfied, not transiently annoyed or disappointed—the longer he can improve and the further he can go. When a man becomes content with himself he stops growing.*

*So the deliberate cultivation of self-dissatisfaction is a great factor in the art of success. This is why it is always dangerous to be the big frog in the small puddle. your own mind, and without saying a word to anybody, appoint such men your unofficial teachers. Watch them. Study them. Compare their performance with your own. Analyse what they do, and try to see how they do it.—James L. Mursell, Ph.D., in "Streamline Your Mind."*

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*The Archbishop of Canterbury said yesterday: "I sometimes think that the cry of the curlew goes to my heart more than any sound in creation."*

*There are sounds, detached from sight and heard across wide spaces, which can stir or uplift human hearts almost more than other influences. One has to be very insensitive to resist the echo of a bugle, heard across the summer dusk from a distant camp; or in the London night the sudden hoot of a tug going up-river on the tide; or the sound of church-bells across fields; the sleepy lap of water against a dinghy; the thrum of telegraph wires in the wind; the song of the lark, the jingle of a barrel-organ, the laughter of children, and all the soft little whispers of an old house on a quiet night. —Evening News (London).*

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## *Conventions*

MIDWINTER MEETING OF THE CHICAGO DENTAL SOCIETY, HOTEL STEVENS, CHICAGO, ILLINOIS, FEBRUARY 12-15, 1940.

MINNESOTA DENTAL ASSOCIATION, ST. PAUL, MINNESOTA, FEBRUARY 27-29, 1940.

THE NATIONAL DENTAL CENTENARY CELEBRATION, BALTIMORE, MD., MARCH 18-20, 1940.

AMERICAN ACADEMY OF PERIODONTOLOGY, CLEVELAND, OHIO, SEPTEMBER 5-7, 1940.

AMERICAN DENTAL ASSOCIATION, CLEVELAND, OHIO, SEPTEMBER 9-13, 1940.

# The Forum

## • A COMPARISON OF THE RESULTS OF ELECTRO-COAGULATION AND A GINGIVECTOMY IN POCKET ELIMINATION

by RAYMOND W. SWANSON, D.D.S., M.S.D., and S. HILL GORDON, B.S., D.D.S., M.S.D.

(*Condensed from paper published in Northwestern Univ. Bulletin, April,* 1939.)

GINGIVECTOMY and electro-coagulation were performed on thirty-four patients in whom forty regions, i.e., anterior posterior areas, were operated upon with a total of one hundred and twenty-five teeth involved. The pockets operated on averaged three millimeters in depth following prophylaxis treatment.

These studies seem to indicate that essentially the results were the same for both operations. At the end of a healing period ranging from one month to four months no clinical distinction could be made between the methods. The pockets had been eliminated in both cases. Slightly more pain seemed to occur when the electro-coagulation method was employed. This was especially true in the bicuspid and molar regions. Practically no reattachment of pathologic, detached, peridental tissue apparently occurred in either operation. The greatest difference seemed to lie in the amount of time required for healing in comparable areas. The surgical method required less time for its completion and less postoperative treatment. The coagulation cases had considerably deeper pockets at the end of the sixty to seventy-two hour period than was found immediately after operation on the surgical side. The average difference was found to equal a millimeter and a half. At the end of four months the gingivae were rebuilt in the case of the gingivectomy and reduced in the electro-coagulation cases so that no marked difference existed at that time.

## • NATIONAL HEALTH PROGRAM

by EDWARD J. RYAN, B.S., D.D.S., Evanston, Illinois

(*Excerpt from North-West Dentistry, April,* 1939.)

IF we are to have a national health program, and every sign points that way, we should emphasize dental care for the child rather than for the adult; we should stress that it cannot be done for less than $5.00 a year per person; we should urge that, wherever possible, it be done under the system of private practice; we should battle against a lowering of professional standards and the development of a stifling bureaucracy.

We all recognize that professional tradition and the ideology of the professional man makes it difficult for him to accept the principle of collective bargaining. It is hard for us to band together and present our case in a unanimous voice. We must learn by free debate to settle our differences of opinion within our own sphere. I am fearful that, when the time comes for a national health program with dental benefits, there will be those who will bargain and barter for preferment; who will destroy fee schedules and working conditions; who will resort to sabotage. When the time comes for an extensive national health program, I will fear politicians and social workers less than the heretics within our own ranks.

## • ELECTROGALVANIC LESIONS OF THE MOUTH

by ARTHUR WOODBURNE, M.D., Grand Rapids, Mich.

ELECTROGALVANIC lesions of the mouth are always found in apposition with the teeth more commonly on the buccal mucous membrane, but occasionally on the sides of the tongue. These are always seen associated with teeth showing

fillings of different electrolytic potential. The patient usually complains of a sharp sparking, burning sensation, and often a sour metallic taste.

These lesions are characterized by acute or subacute inflammatory patches with often some greyish membrane and in more chronic cases scarring of healed lesions. Electrogalvanic lesions are produced because two dissimilar metals are placed in an electrolytic solution, in this case the saliva. Thus a minute battery is produced which develops on one metal a positive charge and a negative charge on the metal of higher potential. When movement of the mouth takes place a discharge of this stored energy takes place causing a minute spark or slight burning of the mucous membrane. The electrolysis of the saliva also produces the sour taste which is characteristic.

The diagnosis is not difficult when one keeps in mind the type of lesion, location, and the fact that fillings of different electrolytic potential are necessary for the production of this condition.

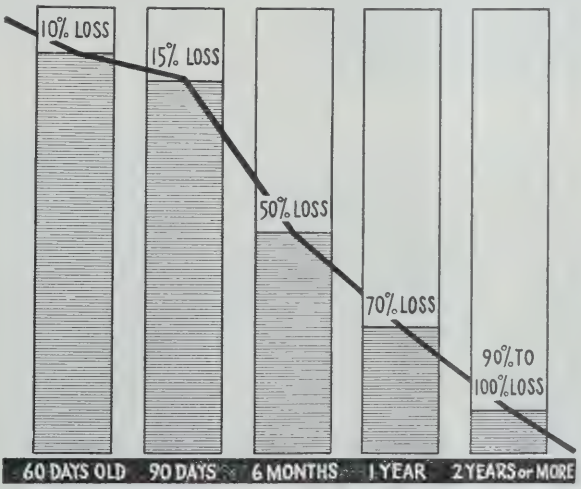
The treatment here is, of course, changing the fillings to all fillings of metal of the same electrolytic potential. In case of a bridge or large denture a band of metal may be connected from one metal to the other which will eliminate this battery effect.—*Jour. Mich. State D. Soc.*

## • HOW OLD AGE KILLS YOUR OVERDUE ACCOUNTS

HERE'S a chart that shows you how your past due accounts slow up to a virtual stop. It is used by many accountants and statisticians as a base for appraisals in evaluating accounts receivable.

Based on a U.S. Bureau of Credits survey, it demonstrates that your chances of collecting are reduced 10 per cent after a bill has gone unpaid 60 days; 15 per cent after 90 days; and a full 50 per cent after six months. An account one year overdue has definitely soured. Neglect or a too liberal credit policy tends, in such cases to lop off 70 per cent in terms of collateral value.

All of which is an excellent argument for making your early collection efforts hit the spot.




—*Medical Economics, June, 1939.*

## • HOBBIES OF A PRAIRIE DENTIST

IN order to forget the drought, the grasshoppers and the dust storms, Dr. V. Rondeau, of Rouleau, Saskatchewan, spends some of his spare time collecting objects of natural history, in making things out of wood, in painting and sketching and in designing and constructing ice carnival costumes. (Fig. 1.)

The sketches which appear here show a molar and some bones of a mammoth which were found near Katepwa Beach. The hammer shows the comparative size of the vertebra. (Fig. 2.)

Among his collections he has a weaver bird's nest from Africa, also some Indian relics, mounted birds, sea curios, etc.

The photo shows a trellis and a three compartment bird house which were made by the doctor. (Fig. 3.)

A number of oil-paintings have been exhibited at Regina. Some were sent to the missionaries in foreign lands. Sometime ago a painting of a kitten was sent to Princess Elizabeth, of England.

FIGURE 1

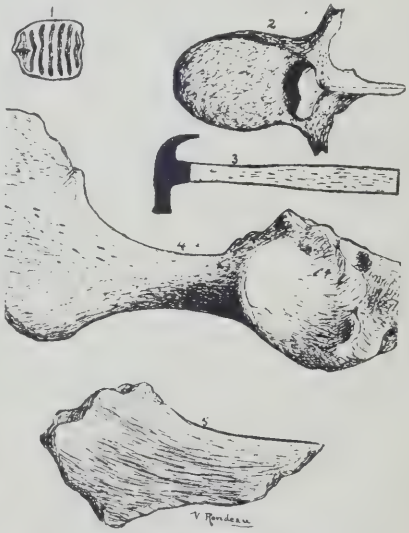
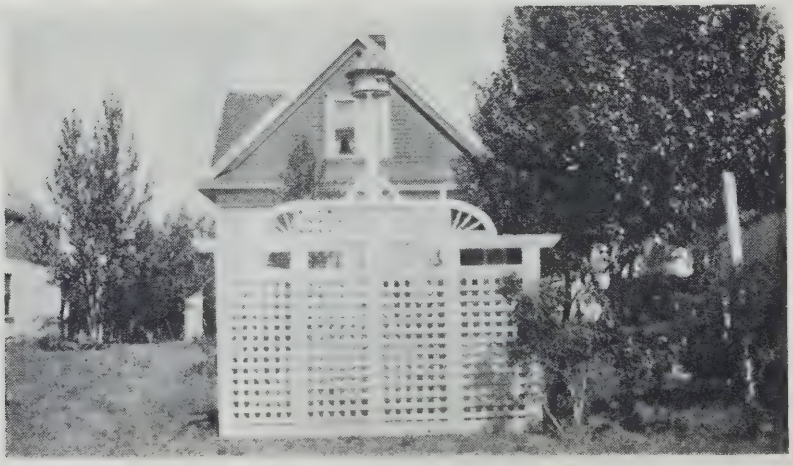



FIGURE 2

FIGURE 3



*Editor*—M. H. GARVIN, Winnipeg

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# The Tariff

The average dentist orders his supplies from the dental depot and pays the marked price for these supplies. At times he may think he is paying quite sufficient but otherwise gives little thought to the matter. If he does feel that the price of a certain article is out of line with common sense what can he do about it?

It is here that organized dentistry should step in and deal with the problem but to date we Canadian dentists have been just short-sighted enough to be unwilling to pay more than a dollar a year per member to deal with all these urgent national dental problems, including the Journal, and the work of all other important standing committees.

A couple of months ago one of our dental manufacturers approached the Tariff Board at Ottawa to have the ruling changed with regard to a certain product which is used in every dental office in Canada whereby a duty of 32½ per cent would be charged, plus a sales tax of eight per cent. This would mean an increased cost to the dentist, although this particular article has been reaching the dentist without either duty or sales tax since 1917.

Upon hearing of this our C.D.A. President, Doctor Moore, wired the Tariff Board at Ottawa that action should be postponed until proper representation could be made by the Canadian Dental Association, since this

proposed action would affect the cost of dental services to the people of Canada.

After this action was taken the manufacturing concern withdrew its application to the Tariff Board, but whether as a result of this agitation an eight per cent sales tax will now be added to this particular article remains to be seen.

It is undoubtedly in the interests of not only the dental profession but of the dental manufacturer, the dental dealer, and the general public as well, that dental supplies should be sold at the lowest possible price consistent with good merchandising methods. However these special cases do arise and must be dealt with, and the Canadian Dental Association is the logical body to handle the matter. May we appeal again to every dentist in Canada to support enthusiastically our National Dental Organization, and thus strengthen the only body capable of dealing with problems so vital not only to the interests of the dentists but also to those of the general public.

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## CORRESPONDENCE

During the recent visit of Their Majesties, King George VI and Queen Elizabeth to Canada, a letter of greeting was addressed to them from the Canadian Dental Association. It was sent over the signature of President Stephen A. Moore and other officers.

His Majesty has just acknowledged this letter to Dr. Moore—

BUCKINGHAM PALACE

12th September, 1939.

Dear Sir,

I am commanded by the King to ask you to convey to the members of the Canadian Dental Association His Majesty's sincere thanks for the loyal address from the Association, which was delivered to the Royal Train in Manitoba.

Yours truly,

*(Signed)* A. LASCELLES.

Dr. Stephen A. Moore,
260 Queen's Park Avenue,
London, Ontario, Canada.

•

Canadian dentists will be interested in a letter sent from the President of our National Association to the Prime Minister of Canada, and the Prime Minister's reply—

September 20, 1939.

The Rt. Honourable W. L. Mackenzie King,
Prime Minister of Canada,
Ottawa, Canada.

Dear Sir,—

At all times, the Canadian Dental Association is desirous of assisting the Government of Canada in every possible manner in the solution of problems pertaining to dental services, either to the Defence Forces or the civilian population of the Dominion. In the present emergency particularly, our Association wishes to place its organization at your disposal, should an occasion arise when we might be of assistance to the Government.

There are slightly over four thousand, one hundred dentists in Canada and, of this number, four thousand and ninety-six are members of our Association. All the Provinces of the Dominion are represented on the Board of Delegates, so that our organization is definitely national in character and is the official body representing the profession of dentistry in this Dominion.

For some time, our Association, through its proper Committee, has been in consultation with the Department of National Defence regarding dental services for the Defence Forces. These negotiations, carried on in a most thorough manner, have resulted in the complete reorganization of the dental services for the Defence Forces and the recent establishment of the Canadian Dental Corps.

As a member of this committee of the Canadian Dental Association, I wish to express to you my admiration for the thorough manner in

which the officers representing the Department of National Defence investigated our representations. We believe that these negotiations have resulted in the organization of a Canadian Dental Corps, the efficiency of which will be second to none.

Yours truly,

STEPHEN A. MOORE,
*President Canadian Dental Association.*

OFFICE OF THE PRIME MINISTER
CANADA

Ottawa, September 22, 1939.

Stephen A. Moore, Esquire,
President, Canadian Dental Association,
260 Queen's Avenue,
London, Ont.

Dear Sir:

The Prime Minister has asked me to acknowledge and thank you for your letter of September the 20th, in which you have offered the services of your association in the present crisis.

Mr. King wishes me to express to you the warm appreciation of his colleagues and himself and to let you know that your communication is being brought to the immediate attention of the appropriate authority.

Yours faithfully,

H. R. L. HENRY,
*Private Secretary.*

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Dr. G. V. Morton, President of the Ontario Dental Association, offers the assistance and co-operation of Ontario dentists with the National Association. Dr. Moore replies—

The Ontario Dental Association is pleased with the formation of the Canadian Dental Corps under the able leadership of Lt.-Col. F. M. Lott, who in Ontario is assisted by his District Dental Officers, Major J. F. Blair, district No. 1; Lt.-Col. W. G. Trelford, district No. 2, and Lt.-Col. J. C. W. Broom, district No. 3, who are both popular and efficient. Dentists are ready and anxious to serve their King and Country, and are volunteering in large numbers for service in the Canadian Dental Corps. We pledge our aid to the Corps and in co-operation with the Canadian Dental Association will do all in our power to further its work.

G. V. MORTON,
*President of the Ontario Dental Association.*

September 21, 1939.

Dr. G. V. Morton, President,
Ontario Dental Association,
2 Bloor Street East,
Toronto, Ontario.

Dear Doctor Morton,—

On behalf of the Canadian Dental Association, I wish to thank you and the members of the Ontario Dental Association for your kind offer of assistance and co-operation in any activity which the National Association may pursue in the present emergency.

At the present time, I do not know what form our efforts may take but we are closely in touch with Ottawa and as the situation develops I will certainly keep you informed.

Referring to our conversation, I do think that any activities relative to the field of dentistry should be carried on by organizations representing the profession of dentistry. It is also desirable that these endeavours take a more or less uniform and definite character throughout the Dominion and I do not see how it can be better and more efficiently handled than by the co-operation of the different Provincial Organizations with the National Association. This joint action might also embrace other organizations working in the same field, as it is only by united and concentrated effort that the best result can be obtained.

I wish again to thank you for your kind offer on behalf of the Ontario Dental Association and can assure you that I will advise you as the situation develops.

Yours sincerely,

STEPHEN A. MOORE,
*President Canadian Dental Association.*

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To the Editor, Journal of the C.D.A.:

I was very much interested in your timely editorial in the August number of the Journal and am enclosing herewith some further correspondence I have had with Libby, McNeill & Libby relative to future copy which they may use. You will note that they have prepared some special advertising for use this fall in the newspapers throughout Canada, in which attention is drawn to the desirability of sound teeth, and they express the hope that this will atone in a small way for any

damage that may have been caused by the unfortunate cartoon of last May.

I have written at different times to various concerns regarding matters of this nature and in all cases have received a courteous letter in reply, with the frank statement that the matter did not appear to them in the manner expressed in my letter. The fact that material of this nature appears now and then may be due to the apathy of the members of our profession in matters of this nature. One cannot think that a publishing or manufacturing concern would knowingly incur the ill will of any profession, but would rather desire its goodwill.

May I express the hope that the members of the dental profession in Canada will not hesitate to protest in the case of objectionable matter of this nature.

Aug. 24, 1939. (*Signed*) STEPHEN A. MOORE,
*President Canadian Dental Association.*

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On Board Hudson's Bay Company
R.M.S. "Nascopie," Aug. 16, 1939.

To the Editor, Journal of the C.D.A.:

We are now proceeding from Lake Harbour to Port Burwell to make an unexpected stop before making the long jump to Craig Harbour.

The opportunity to work among and for this wonderful race of people, the Eskimoes, is much greater than I had anticipated. Every day of work makes me much more enthusiastic about the great opportunity we, as dentists, have in helping to prevent the degeneration of an almost entirely admirable race.

The dental conditions are extremely interesting and they have been inaccurately observed and interpreted by the physicians who have seen them previously. I am the first dentist to visit these parts but I expect that we shall have a valuable continued study if my observations and ideas are sound.

In general the natives have a high immunity to caries, a frequent crowding of the incisors and an almost universal presence of a simplex periodontitis beginning early in life (12-14 years) and progressing steadily until teeth begin to be lost at about 40-50 years of age. The functional habits are very interesting and I hope to have good still and colour movies of them.

The results of the saliva tests for amylase activity are also interesting.

(*Signed*) CHARLES H. M. WILLIAMS,
(Toronto).

## NEWS FROM THE PROVINCES

*NOVA SCOTIA:*

**N. S. Dental Association**

At the final business meeting of the 49th Annual Convention of the Nova Scotia Dental Association the following officers were elected:—

President—R. Langille, Truro.

Senior Vice-president—J. A. MacLeod, Bridgewater.

Junior Vice-president—J. H. Rice, Halifax.

Additional Executive Member—W. G. Dawson, Halifax.

Secretary—J. Stanley Bagnall, Halifax.

*ALBERTA:*

**Alberta Dental Association**

The minutes of the Annual Meeting of the Alberta Dental Association, and the coincident meeting of the Board of Directors held in Calgary in July, have just come to hand. A survey reveals a large amount of business which came up for review and decision.

The long struggle in opposition to the Mechanics Bill, which was introduced into the Legislature, and the attempts made to pass a new consolidated Dental Association Act, were noteworthy.

There has been some criticism of the introduction of an Act as a Private Bill at this time, with the present unfavourable attitude of many members of the Legislature. While the writer was among those who definitely felt such action unwise and full of risk, it must be admitted that the results nearly justified its presentation. As we all know the Bill was defeated after a tie vote, by a negative vote of the Chairman of the Committee of the Whole.

It must also be admitted that a full knowledge of the situation was only in the hands

of the members of the Board, and particularly the Legislative Committee, composed of Dr. Janes, Dr. Rooney, and Mr. Blair Patterson. While we can agree that the Act is badly in need of revision, I still, however, am not altogether convinced that under the circumstances the very considerable risk and expense were justified.

We must appreciate, however, the splendid effort made on our behalf, and particularly the arduous work of Dr. Janes and Dr. Rooney at a real loss to themselves. For such work, which entailed a considerable loss of practice over a period of weeks, a reasonable compensation should be given. I think we should all feel embarrassed until this is done.

All this brings up the fact that our present Act allows a maximum fee of $10.00 per year from three hundred odd members. This is inadequate for the expenses which are necessary. Conditions of unrest and change are already upon us. If we wish to safeguard our opportunity to earn a decent and moderate livelihood which is all that we ask and receive as a group, we must be prepared to pay more to our Association to protect that livelihood, than the small inadequate percentage of our earnings which we now place in the hands of our representatives for that purpose.

Dr. C. M. Fletcher, the retiring Representative to the Canadian Dental Association, in an excellent report, pointed out the importance of the work of the Canadian Dental Association. Here again the limited financial support to our own Association prevents the Dominion body from receiving sufficient funds to adequately protect our interests throughout the Dominion. In short, a reasonable financing of both these organizations must be found, for our own protection.

The next meeting of the Western Canada Dental Society will be held in Edmonton in 1941, at the invitation of the Edmonton Dental Society. Dr. J. M. Dixon of Calgary was recently elected President of the Western Canada Society.

The officers of the Alberta Dental Association for the coming year are:

President,—Dr. A. M. Palmer.

Vice-President,—Dr. Hugh McCaffery.

Secretary-Treasurer,—Dr. R. A. Rooney.

Executives,—Dr. L. V. Janes, Dr. W. E. Addinell, Dr. J. M. Dixon, Dr. J. Gordon Miller.

—*John W. Clay.*

*MANITOBA:*

**Manitoba Dental Association**

The appointment of Dr. F. M. Lott as Chief Dental Officer administering the reorganization of the Canadian Dental Corps has been received in Manitoba with much satisfaction. It means much to the dental profession to have a man of Dr. Lott's calibre in charge of such a vital health service for the troops of Canada. Dr. W. W. Wright, who headed the dental corps in Military District No. 10 during World War No. 1, has been selected to organize the dental corps in the same military district for World War No. 2. Dr. Wright is to be congratulated for his patriotism in again offering his services to his Country. Offers of service in the dental corps have been pouring in to Lt.-Col. Wright for some weeks.

■

**Dental Nurses and Assistants**

The Western Canada Dental Nurses' and Assistants' Association held a most successful Convention in Winnipeg, May 29-31, when delegates from Manitoba and Saskatchewan were heartily welcomed by the local Association.

On Monday morning the Convention was opened by an address of welcome given by the President, Miss Vera Geddes. In addition to the business meetings the members were addressed by the following prominent dentists: Dr. George A. Morgan, of Toronto, on "Assisting with Surgical Operations;" Dr. Edward J. Ryan, of Evanston, Illinois, on "Dental Practice;" Dr. Stanley D. Tylman, of Chicago, on "Crown and Gold Inlay Work;" Dr. F. J. Viner, of Omaha, Nebraska, on "Amalgams;" Dr. Roy Bier, of Winnipeg, on "Impacted Third Molars;" and Dr. C. J. F. Jackson, of Winnipeg, on "The Proper Use of the Toothbrush." A very interesting clinic was given on "A Routine Day in the Office" and papers were presented by dental assistants of Regina and Winnipeg. The delegates also visited the various laboratories in the City.

The social functions of the Convention included a reception Sunday evening at the Fort Garry Hotel, a luncheon when the members

were the guests of the Ash-Temple Company and when Miss Muriel Cameron, of the Department of Agriculture, Ottawa, was the guest speaker; a luncheon tendered the Association by Denco Western, Limited, and a much enjoyed banquet held in the Palm Room of the Fort Garry Hotel, when the local Association entertained the visiting delegates.

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### Dental Nurses and Assistants

The members of the Winnipeg Dental Nurses' and Assistants' Association were the guests of Mrs. M. A. Browning at a Corn Roast on August 28.

On September 11 the Association held its first dinner and meeting of the year in the "Homecraft Rooms."

A letter from Mrs. Marion Edwards, of Toronto, suggesting a Dominion-wide Association, was read and discussed.

Miss K. Ray gave an interesting report on the Convention held this summer in Winnipeg.—*D. A. Warren.*

*ONTARIO:*

### Dental School as Training Centre

Dean Mason, of the Dental Faculty of the University of Toronto, in a letter to Lieut.-Col. F. M. Lott, Director of Dental Services in Canada, has offered the facilities of his department to the Federal Government as a training centre for dentists and dental assistants.

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### Dental Requirements of Unemployed Who Enlist

There have been quite a number of Toronto's unemployed whose application to enlist for military service has been refused because they need prosthetic appliances for proper mastication. The City Council has agreed to extend its arrangement with the Academy of Dentistry to have these men taken care of. Unemployed men of military age who have signed applications to enlist and are rejected for dental reasons may apply to the William Howson School clinic on Nassau Street and from there they will have arrangements completed whereby the dental service will be taken care of by a private dentist in the district in which the applicant resides.

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### The Dental Nurses' Alumnae Association

The Dental Nurses' Alumnae Association held its first annual meeting on September 12 at the Faculty of Dentistry Building, Toronto. President Miss Marjorie Joyner was in the chair.

Dean A. D. A. Mason showed motion pictures taken during the visit of Their Majesties, King George VI and Queen Elizabeth, in Toronto. Miss Jessie MacTaggart of the Toronto Daily Star, who accompanied the royal party on the pilot train throughout the entire tour in Canada and the United States, gave an interesting description of the trip.

Other motion pictures taken in Ireland and England were shown by Mr. S. B. McMichael.

Miss Eleanor Crerar, entertainment convener and bride-elect of September, was presented with a silver cake basket.

—*Jean Lindsay.*

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### Registration Figures For 1939-40

Dean Mason of the Faculty of Dentistry, University of Toronto, has released registration figures for 1939-40 session. First year—34; second year—54; third year—44; fourth year—43 and fifth year 55. Eighteen registrants in the fifth year are graduates from England and Australia. 17 student nurses have registered for training as dental nurses.

*NEW BRUNSWICK:*

### C.D.A. President Visits New Brunswick

Dr. Stephen A. Moore, President of the Canadian Dental Association, was entertained at dinner at the Admiral Beatty Hotel on the evening of August 30 by the members of the Saint John Dental Society. The President of the Society, Dr. S. K. Wetmore, was in the chair.

Other special guests were Dr. Harry Thomson, field secretary of the Canadian Dental Hygiene Council and Dr. George McDougall, of Sussex, President of the New Brunswick Dental Association.

In his address Dr. Moore spoke particularly of the relationship between the Canadian Dental Association and the provincial dental associations.

# EMPIRE NEWS

*GREAT BRITAIN:*

### New Post-Graduate Qualification in Dentistry

At a meeting of the council of the Royal College of Surgeons held on July 31, it was decided to apply for the grant of a supplementary charter to give the College power to grant a higher dental diploma entitled "Master Surgeon Dentist."—*Br. Den. Jour., Aug.* 15, 1939.

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### Howard Mummery Prize

At the annual general meeting of the B.D.A. a presentation of the Howard Mummery prize was made to Mrs. Shirley Hughes for her work on the development of tooth-germs and tissue culture. This work published under the name of Miss Glasstone has been carried out at the Strangeways Laboratory at Cambridge, and has created much interest and admiration both on account of the delicacy of the technique and for the remarkable results she has obtained.—*Br. Den. Jour. Aug.* 15, 1939.

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### Removal of Journal Office

The offices of the British Dental Journal have been removed temporarily to: 5 Westleigh Road, Barton Seagrove, Kettering.

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### British Dental Association

If I were asked to define what the British Dental Association stands for, I should reply, "Honour, dignity and public service."—*Herbert Elwood, L.D.S., Edin, (Immediate Past-President of the B.D.A.)*

*AUSTRALIA:*

### Diet Campaign

At a recent meeting the Dental Board of Victoria unanimously agreed to the following notice of motion: "That this Board, realizing the alarming increase in the incidence of dental disease in the community, and the futility of attempting to combat the problem by means of reparative measures alone, should institute an educational program for the purpose of disseminating the more recent knowledge gained in the dietetic aspect of preventive dentistry." — *D. Mag. and Oral Topics.*

*SOUTH AFRICA:*

### The Dental Mechanicians' Bill

One of the important problems before the profession in this country still awaiting solution is that of the dental mechanician, his status and his work. The present position is unsatisfactory to everyone concerned.

The proposed Bill provides for the establishment of a Dental Mechanicians' Board which would regulate the calling of the dental mechanician; the Board would be composed of seven members, three of whom would be dentists representing the Dental Association of South Africa, three would be dental mechanicians representing the South African Association of Dental Mechanicians, and one an independent person appointed by the Minister to act as chairman for the first year.

No person other than a dentist or dental mechanician so registered by the Board would be allowed to perform the work of a dental mechanician.

The Board would have the power to determine from time to time the minimum remuneration to be paid by a dentist to a dental mechanician for any class of dental work done and make different determinations in respect of different areas.

No person other than a dentist or a registered dental mechanician or a person licensed thereto (e.g. dental dealer) would be permitted to be in possession of unmounted artificial teeth for purposes of trade, and a register of such teeth would be kept by those persons entitled to be in possession of them. —*Excerpts from S. African D. Journal.*

# GENERAL NEWS

**Canadian Dental Corps**

The Journal acknowledges with grateful thanks this article which has been received from Lieut. Col. Lott, Chief Dental Officer of the Canadian Dental Corps. In view of his many duties and the great pressure of work which requires personal attention, his throughtfulness in sending this article for publication at this time is greatly appreciated.

In view of the present world situation, the present status of the Dental Corps will be interesting to the profession.

For the past two years the Military Committee of the Canadian Dental Association has conducted an exhaustive investigation of the Dental Services of a number of the principal navies, armies and air forces of the world.

As a result of this work, a new organization of the service in Canada was crystallizing just as war was declared.

Details have not been forthcoming for the simple reason that the organization was not officially authorized when the last issue of the Journal went to press.

The former organization for the forward areas in the field where there was only one dental officer for each Field Ambulance and Casualty Clearing Station is readily acknowledged by all former officers of the C.A.D.C. to have been quite inadequate. When an analysis of the active service requirement was completed, it was possible to formulate the following establishment for peace conditions.

The descriptions of the organization for peace is all that can be released at the present time. However, it is really all that is necessary because it gives a general idea of the organization for either peace or war. The whole plan has been arranged on a basis of how many patients a dental officer can care for under the various service conditions and passing from peace to war merely means expansion of the peace time arrangement in certain ratios.

The Corps is commanded by a Chief Dental Officer with the rank of Colonel.

The Headquarters of the Corps are at Ottawa and are composed of an administrative and Quartermaster's staff.

There are eleven Military Districts across Canada that are somewhat comparable to divisions in the field for purposes of organization.

Each Military District now has a Dental Company in command of a Major or Lieutenant-Colonel. This company is composed of Headquarters and 4 Sections. The Headquarters is made up of administrative personnel, quartermaster's stores and dental laboratory.

The four sections are for actual dental work. There are four because, for active service reasons, one section is necessary for each of the three infantry brigades and one for other troops in the division, such as artillery, engineers, etc.

In addition, there is a detachment attached to each medical unit as in former days.

Each of the four sections is divided into two detachments, each providing for a dental officer, a chair assistant and an orderly. The detachment is the actual clinical unit and is mobile. The organization of the Company is so designed as to permit of expansion by the addition of section or detachments to meet demands as they may arise from time to time. In fact the present peace organization is capable of easy adaptation to any peace or war conditions and will govern the basis for the expansion of the Service in Canada necessitated by the advent of war.

War organization and establishments are now under consideration. These will be designed to provide dental service for—

(a) troops concentrated throughout Canada.

(b) for an Expeditionary Force.

At the moment it is not possible to publish details which will govern the subject of a future article.

(*Signed*) F. M. Lott. Lt.-Col.,
Chief Dental Officer.

No doubt members of the profession throughout Canada are anxious to get information regarding the Canadian Dental Corps. It is the intention of the Journal committee to make every effort to secure and publish in each issue, whatever information is available. Further, the committee have been assured by Lieut. Col. Lott that he will make releases through our National Journal from time to time regarding the activities of the Canadian Dental Corps.

The following appointments to the Canadian Dental Corps are announced—Lt. Col. F. M. Lott, Chief Dental Officer for Canada, Major J. F. Blair, D.S.O.; D.D.D.O. for M.D. No. 1; Lt. Col. W. G. Trelford, D.D.D.O. for M.D. No. 2; Lt. Col. J. C. W. Broom, D.D.D.O. for M.D. No. 3; Major E. W. Saunders, D.D.D.O. for M.D. No. 4; Lt. Col. J. W. Rooney, D.D.D.O. for M.D. No. 5; Major C. B. Climo, D.D.D.O. for M.D. No. 6; Major J. F. Edgecombe, D.D.D.O. for M.D. No. 7; Lt. Col. W. W. Wright, D.D.D.O. for M.D. No. 10; Capt. E. Fraser Allen, D.D.D.O. for M.D. No. 11; Lt. Col. George L. Cameron, D.S.O.; D.D.D.O. for M.D. No. 12; Major L. V. Janes, D.D.D.O. for M.D. No. 13.

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**President's Cablegram to B.D.A.**

The following cablegram was sent to the British Dental Association by the President of the Canadian Dental Association on September 14:—

"The British Dental Association,
13 Hill Street, Berkeley Square,
London W.1., England.

With deepest regret Canadian Dental Association learns sudden death of President Walkinshaw.

STEPHEN A. MOORE, *President.*"

•

**Maritime Trip of Our C.D.A. President**

Dr. Stephen A. Moore, our President, left on August 28, for the Maritimes. On the morning of the 29th he had a meeting of the members of the Army Dental Services in Montreal and in the afternoon a conference with the members of the Finance Committee of the C.D.A. On the 30th Dr. Moore was royally entertained by the dental profession in St. John, a party of fifteen going up the St. John river in a launch in the afternoon, followed by a dinner meeting in the evening. On August 31 he arrived in Halifax in time to address a very enthusiastic dinner meeting of dentists at the Nova Scotian Hotel. On Friday, Dr. Moore had the privilege of attending the Refresher Course presented by Dalhousie University Dental School at the 49th Annual Convention of the Nova Scotia Dental Association and also of speaking at the evening session, in the interests of the Canadian Dental Association.

During the same evening Dr. Moore received a telegram from Ottawa requesting his presence there as soon as possible, so he left at once, arriving in Ottawa on September 3, in time for a meeting at Defence Headquarters regarding the putting into effect of the proposed reorganization of the Army Dental Services in Canada. This was on the day that War was declared, and within a few hours following this declaration our President was in the capital city of Canada attending to the duties incumbent upon him as President of our Association.

Dr. Moore has given most freely and unselfishly of his time in his efforts to promote the interests of the Canadian Dental Association, an organization which has become a part of his very life. The dentists of Canada owe Dr. Moore a debt which they can never pay.—*M. H. G.*

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**Canadian Dental Association Sends Greetings to Australian Dental Association**

The following cablegram was sent to Dr. J. Monahan Lewis, President of the Australian Dental Congress, by our President, Dr. Moore:—

"The President, Australian Dental Congress,
Melbourne, Australia.

Canadian Dental Association extends to officers and members of your Congress fraternal greetings and best wishes for a successful meeting.

STEPHEN A. MOORE, *President.*"

•

**Dental Centenary Celebration**

One of the greatest meetings in the history of dentistry will mark the celebration of the centennial of our profession. Sponsored by the American Dental Association and supported by all phases of the profession, the Dental Centenary Celebration to be held in Baltimore on March 18-20, 1940, will be attended by dentists from all over the world. The various Centenary committees, representing all the professional interests and all the sections of the country, have been inspired by a great purpose: to commemorate the one hundred years of advancement which have made their profession equal to the highest hopes of its founders.

**Increase in A.D.A. Dues**

The Special Reference Committee of the American Dental Association, reporting on the increase of dues from $4.00 to $6.00, recommended to the House of Delegates at Milwaukee:

"(1) That all State Dental Associations and component societies be urged at once to make such changes in their constitution and by-laws as will authorize those organizations to collect an additional $2.00 dues for the American Dental Association. (2) That the American Dental Association and all component societies carry out thoroughly a plan to acquaint the general membership with their own needs as expressed by the demands of the aggregate membership in this Association."—*B. Chicago D. Soc.*

## IN MEMORIAM

The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**T. R. D. Walkinshaw,** M.D.S., Durh., L.D.S. Edin., President of the British Dental Association, died August 21. Mr. Walkinshaw was installed as President on August 9, was taken ill while on holidays and in less than two weeks' time had passed on to his reward.

He had been prominent in the British Dental Association for many years. He was the first Hon. Sec. of the Northern Counties Branch of the Association and had been a member of the Representative Board since 1905. He was a member of the staff of the Newcastle-upon-Tyne Dental Hospital since 1898 and was largely responsible for the planning and equipping of the new Dental Hospital and School at Newcastle which is one of the best equipped and most modern of all dental schools in Great Britain. He qualified as L.D.S.R.C.S. Edin. in 1896 and has practised in Newcastle all his life. He is survived by his widow and two children.

This is the first occasion on which the British Dental Association has had the misfortune to lose its President during his term of office.

Mr. Walkinshaw will be remembered by Canadians as a member of the British party which participated in the great joint meeting of the British Dental Association and the Canadian Dental Association, held in Toronto in 1932.

The Canadian Dental Association extends its deepest sympathy to the British Dental Association and also to the widow and children of the deceased.

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**O. F. Fanset,** of MacLeod, Alberta, aged 67, died September 3. He was graduated from Northwestern University in 1903 and began practice in the City of Chicago. He moved to MacLeod in 1918 where he has since resided.

He was active in public affairs serving on the Town Council from 1930-32. For many years he was chairman of the School Board and president of the McLeod Board of Trade. He was a member of Alberta Lodge, No. 3, A.F. & A.M. and was a past master and life member of his mother lodge at Hannah, North Dakota. He was an ardent liberal and a member of Trinity United Church.

Dr. Fanset is survived by one son, one daughter, one brother and one sister.

•

**James Earl Irwin,** of Toronto, died suddenly on August 31.

He was graduated in 1921. He served in the Great War of 1914-18, enlisting in the 1st University Company for reinforcements for the Princess Patricia Light Infantry in 1915. He was severely wounded at Vimy. He was transferred to the C.A.D.C. in 1917.

Dr. Irwin is survived by his widow, one sister and two brothers.

## . . . SECTION FRANÇAISE . . .

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# *Quelques Journaux Dentaires Canadiens*

par PAUL E. POITRAS, D.D.S.

Le charlatanisme fut le plus grand ennemi contre qui les dentistes du XIXième siècle eurent à lutter. Né de l'ignorance et de la présomption, il ne pouvait être vaincu que par la diffusion de l'hygiène dentaire. Les dentistes canadiens de cette époque étaient des artisans, mais des artisans égaux en habileté à leurs confrères européens et américains; ils avaient, comme eux, des connaissances scientifiques et littéraires rudimentaires, à l'exception de quelques médecins spécialisés en stomatologie.

En face de ce manque de culture, des français: Duval, Laforgue, Gariot, Delabarre, Maury, Désidérabode, des anglais: Blake, Fox, Bell, Jobson, Nasmyth, des américains: Fitch, Harris, etc. publièrent des manuels dont le but était de développer la science dentaire. Aux Etats-Unis, grâce à deux hommes: Horace H. Hayden et Chapin A. Harris, aidés de quelques dentistes de New York ce mouvement d'éducation dentaire avança plus vite qu'en Europe; leur effort réuni permit d'éditer le premier journal dentaire du monde: "American Journal of Dental Science", (juin 1839), la première société dentaire: "American Society of Dental Surgeons", (août 1840), enfin le premier collège dentaire: "Baltimore College of Dental Surgeons", (janvier 1840) qui servirent de bases indispensables à la fondation future de la profession dentaire et à son développement.

Etant donné le nombre restreint des dentistes canadiens, ce n'est qu'en 1854 que le premier journal dentaire canadien "The Family Dentist"(1) fut édité et publié à

(1) A. W. Faulkner, J.A.D.C., Volume 1, No. 1, page 11.

Brockville, Ont. par S. S. Blodgett. Au mois de juin de la même année le "New York Dental Recorder" écrivait: "Au nouveau journal dentaire canadien nous souhaitons la bienvenue. Il est un précurseur qui aidera à améliorer la santé publique en faisant connaître l'hygiène dentaire. Malheureusement, parce que prématuré, il eut une vie éphémère."

Quatre ans plus tard, (septembre 1858 à juin 1860) les docteurs Pains et Macallister éditaient à Halifax, Nouvelle-Ecosse, une revue dentaire trimestrielle "The Journal of the Times" annonçant au public avec une certaine réserve professionnelle qu'ils exerçaient avec habileté la profession dentaire.

Si ces deux revues eurent peu de succès, à cause d'une vie trop courte, elles montrèrent les possibilités de diffusion de la science dentaire et de la préparation d'une génération plus instruite. Facteur important dans un pays comme le nôtre où tout était encore à faire.

Ce serait une erreur de croire qu'entre le dentiste d'il y a cent ans et celui des temps modernes il y eut une grande différence. Les moeurs ont pu changer, le confort s'accroître, la science se développer, la nature humaine est restée la même. L'erreur de notre ère est de croire que depuis le dernier siècle le fait humain ait pu être modifié. Nos besoins, nos désirs, nos passions, nos souffrances sont les mêmes. Seul le décor de notre existence a changé. Les esprits mercantiles de tous les siècles n'ont-ils pas toujours mis le comble de l'habileté à revendre, à un patient ignorant, une camelote au plus haut prix?

Déjà avant le premier statut de notre profession (1869) quelques idéalistes rêvaient d'ajouter au traitement de la carie dentaire une science plus complète des maladies de la muqueuse buccale et des tissus osseux environnants, de l'anatomie et de la physiologie dentaires enfin de tout ce que nous savons aujourd'hui indispensable à notre profession.

Voulant réaliser ce but, un jeune homme, William George Beers, né à Montréal, élève du dentiste Dickenson, édita à Montréal "Canada Journal of Dental Science", dont le premier numéro de trente-deux pages parut au mois de juin 1868. Soixante-et-deux dentistes payèrent l'abonnement de la première année; l'année suivante le nombre d'abonnés fut de quatre-vingt-onze et, en 1870, deux revues dentaires seulement avaient une circulation supérieure au Canada Journal. La lutte fut dure, car le journal était une expérience qui ne fut que la répétition de l'histoire du journalisme dentaire du monde entier, à cette époque de transition.

En 1879, le journal cessa d'être publié. Deux-mille trois cent soixante-quatorze pages avaient été imprimées dont plusieurs écrites par J. Stewart Scott, M.D. de Toronto.

Sans crainte d'erreur nous pouvons considérer "Canada Journal of Dental Science" comme le véritable pionnier de tous les journaux dentaires canadiens. Il fut une aide importante à la profession naissante.

En 1889, W. G. Beers, plus âgé, plus expérimenté, aidé de C. S. Chittenden, L.D.S., Hamilton, Ont., et A. C. Gogswell, L.D.S., Halifax, N.E., soutenu des principaux dentistes canadiens édita le "Dominion Dental Journal" dont la vie fut de quarante-six ans, le journal publié à Toronto fut d'abord trimestriel, (1889-1890) bimestriel, (1891-1892) enfin mensuel, (1893-1934).

Une période de dix ans s'était écoulée entre le dernier numéro du "Canada Journal of Dental Science" et le premier numéro du "Dominion Dental Journal". L'étroite relation entre les deux journaux était si grande que le second doit être regardé comme le prolongement du premier. L'un et l'autre furent pendant toute leur vie, grâce à la

collaboration des meilleurs éléments de la profession, un atout nécessaire à l'avancement de la profession dentaire canadienne.

Le docteur W. G. Beers, jusqu'à sa mort, resta à la tête de la rédaction, il eut pour successeur le docteur A. E. Webster, D.D.S., doyen de la faculté dentaire de l'université de Toronto, qui en garda la direction jusqu'en décembre 1934, alors que le dernier numéro de la revue était publié.

Le 5 mai 1843, naissait à Montréal William George Beers, ses études primaires terminées, il entra au service du dentiste Dickenson de Montréal qu'il quitta en 1865 pour ouvrir son propre cabinet dentaire. Il fut licencié de l'Association des chirurgiens-dentistes de la Province de Québec en 1869, de la province d'Ontario en 1870 et plus tard de l'Angleterre. A l'Affiliation du Collège dentaire de la province de Québec, (dont il fut le premier doyen, de sa fondation en 1892 à 1896) à l'université Bishop de Lennoxville en 1896 il reçut le degré de D.D.S. La majorité des sociétés dentaires canadiennes, anglaises et américaines se glorifiaient de le compter comme un de leurs plus distingués membres honoraires. Dentiste de grande réputation, véritable patriote, athlète fameux, officier de milice, citoyen respecté, il mourut à Montréal, le 26 décembre 1900. (2)

Depuis nombre d'années, à cause d'une foule de facteurs qu'il est inutile d'énumérer, le budget du journal devenait de plus en plus difficile à équilibrer. Les propriétaires, devant un tel fait, acceptèrent favorablement les conditions d'achat de l'Association dentaire canadienne qui, en janvier 1935, éditait le "Dominion Dental Journal" sous le nouveau nom de "Journal of Canadian Dental Association — Le journal de l'Association dentaire canadienne".

Le comité du journal voulant lui donner un esprit vraiment canadien décida de l'éditer bilingue. Deux rédacteurs furent nommés, l'un anglais, le docteur H. Garvin de Winnipeg et l'autre français, le docteur Philippe Hamel de Québec qui, élu député provincial, démissionna et fut remplacé, en 1937, par le docteur Alcide Thibaudeau.

Le journal a une circulation de plus de quatre mille et est distribué à tous les dentistes du Canada. Parce que ses pages sont ouvertes à tous; parce que le comité du journal est formé de représentants de toutes les provinces; parce qu'il nous défend tout en nous instruisant, il est vraiment notre organe.

En 1915, deux jeunes dentistes: les docteurs Honoré Thibault et Paul E. Poitras, le premier secrétaire et le second trésorier de la Société d'Odontologie de Montréal, convaincus que le moment était arrivé de développer d'avantage l'esprit de corps de l'élément français de la profession dans le Québec, décidèrent d'éditer une revue qui fut reconnue l'organe de la Société d'Odontologie. Honoré Thibault en fut le rédacteur et Paul E. Poitras l'éditeur.

Pour connaître l'opinion des confrères, quatre circulaires furent publiées, la première au mois de décembre 1915, les autres aux mois de février, mars et avril 1916, sous le titre de Société d'Odontologie. Ces circulaires ayant été bien accueillies, au mois de mai 1916, La Revue Dentaire Canadienne fut éditée et publiée à Montréal sous son nouveau nom. C'était le premier journal dentaire de langue française publié en Amérique.

Son programme était de créer un journal pouvant traiter des questions les plus diverses, d'aborder les sujets les plus variés de la science dentaire, de mettre à jour des travaux inédits, de servir les dentistes par tous les moyens qu'une revue a à sa disposition, de traiter des sujets d'intérêts professionnels, d'appuyer les bons mouvements des divers corps dentaires, de réveiller les énergies endormies, de dénoncer ce qui est injuste.

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(2) ORAL HEALTH—1926: Vol. 16, page 203.

Convaincue qu'un journal a un rôle à remplir, la rédaction prit sa tâche à coeur, la considérant comme utile, elle demanda à ses amis l'appui de leur approbation et aux indifférents l'aumône de leur indulgence. (3)

Sans capital, sans expérience, la conscription votée, la publication de la revue fut suspendue après décembre 1917 pour permettre au rédacteur de servir sous les drapeaux canadiens. En janvier 1920, le traité de Versailles signé, les affaires stabilisées, escomptant des jours meilleurs, le troisième volume commença à paraître, pimpant en sa toilette neuve, plein de vie, tout à la joie d'aller de nouveau saluer les dentistes et continuer à leur parler de leur profession.

L'enthousiasme seul n'était pas suffisant il faillait en plus de l'énergie, de la volonté et du travail pour publier les dix-sept volumes composant la collection complète de la REVUE DENTAIRE CANADIENNE dont l'utilité fut de grouper les confrères français du Québec, de les faire connaître à l'étranger. Une foule d'articles d'intérêts généraux et scientifiques parurent dans ses colonnes aidant à relever le niveau professionnel et à augmenter les connaissances scientifiques d'un chacun.

Au mois de novembre 1934, était édité le dernier numéro de la REVUE DENTAIRE CANADIENNE; elle était toute heureuse de s'effacer devant le nouveau journal de l'Association dentaire canadienne et permettre aux dentistes canadiens, anglais et français de travailler plus étroitement au plus grand bénéfice de tous.

Depuis un siècle, ces divers journaux dentaires ont permis de mettre en commun les conquêtes de chacun et de les transmettre à ceux qui suivent; ils ont fait que rien ne soit perdu, que tout s'ajoute à tout, que chaque génération ait à travailler sur ces acquêts préalables et que ces acquêts, ayant été pour les premiers dentistes un point d'arrivée soient pour leurs successeurs un point de départ. Ils les ont consolidés; grâce à eux, un patrimoine dentaire a pu se constituer et se poursuivre d'étape en étape. Ces étapes, nommées progrès, sont l'oeuvre du cerveau, elles s'enrichissent de tous les souvenirs de la profession, devenue héritière du travail accumulé par les aînés. Plusieurs parmi eux ont créé avant nous, pour nous. Sans gratitude, nous employons leurs trouvailles et même allons jusqu'en tirer vanité sans penser que notre supériorité réside dans cette faculté que nous avons de transmettre de génération en génération les découvertes utiles par le meilleur médium, à savoir: le journal dentaire dont le premier a été publié il y eut cent ans au mois juin dernier.

*Montréal, septembre, 1939.*

(3) Revue Dentaire Canadienne, Vol. 1, page 1.

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# *Douleurs au Sucré*

Il ne se passe pas un mois sans qu'il soit question des douleurs aiguës dans des dents apparemment saines.

Précieuses douleurs, serions-nous portés à dire, car elles orientent tout de suite le praticien vers un diagnostique assez précis. En effet au moindre interrogatoire nous apprenons que ces violentes sensations apparaissent presque toujours quelques minutes après l'absorption de sucre ou aliments très acides, comme les vinaigrés, les fruits très verts, ou autres.

Si après de telles déclarations du patient et un examen sommaire au miroir et à l'explorateur, nous concluons à une simple névralgie, nous commettons une erreur dont

il faudra revenir avant longtemps, car le patient ne manquera pas de nous répéter sa plainte à moins qu'il n'aille la faire à d'autres et pour cause.

Des douleurs de ce genre ne se produisent jamais sans une cause qu'il ne faut pas nier parce qu'on ne l'a pas trouvée. C'est que la dent est devenue perméable quelque part. Le plus souvent c'est une petite carie en dessous du point de contact sur une face proximale ou bien une séparation du joint de l'émail et du cément qui laisse la dentine à nu.

Pour expliquer comment cette perméabilité de la dent peut agir, je n'ai rien trouvé de mieux que de reproduire ici ce qu'en disait M. J. Bader à la Société d'Odontologie, 8 novembre 1938 (voir l'Odontologie, janvier 1939).

Deux problèmes m'ont amené à étudier la question de la perméabilité des dents (au sucre en particulier) ; d'une part c'est le problème de la douleur dentaire au contact sucré et d'autre part, le problème de la carie dont l'état actuel ne peut donner entière satisfaction. J'ai été amené en effet à considérer ce processus pathologique comme étant surtout de nature électrolytique ce qui permet aussi de concilier les différentes théories et d'expliquer en particulier la formation des zones de défense dans la pulpe. Mais je m'en tiendrai dans cettte note à la question de l'action du sucre dans le déclanchement de la douleur dont je n'ai jamais trouvé d'explication dans notre littérature professionnelle.

Mon hypothèse est la suivante. Un contact sucré d'une durée suffisante crée au niveau de la dent une solution hypertonique. Ainsi il se produit brutalement une forte différence de concentration entre les liquides dentino-pulpaires et la solution sucrée. Les sucres ne s'ionisant pas, ils ne peuvent pénétrer dans la dent et l'équilibre ne peut se rétablir, par conséquent, que par un déplacement brutal des liquides de la dent vers l'extérieur. Cette déshydratation crée la douleur, ce qui se comprend aisément quand on sait que les échanges hydriques paraissent très actifs dans le nerf. Ce dernier semble absorber et prendre de l'eau facilement et subir ainsi des variations volumétriques notables. Il y a une sorte d'oedème physiologique du cylindraxe des nerfs (Nageotte) de signification histo-physiologique inconnue (Policard). En effet, si les phosphatides, cholestérine, etc. . . . , qui composent le nerf ne sont pas solubles dans l'eau, par contre, ils s'émulsionnent très facilement avec l'eau donnant les colloïdes électro-négatifs (Lambling). D'un autre côté, l'anesthésie locale a montré que la perte de sensibilité est le fait d'une hydratation du nerf et les meilleurs anesthésiques sont les plus alcalins, l'alcalinité favorisant le processus d'hydratation (Charpentier).

Pour vérifier cette hypothèse sur l'action du sucre, j'ai imaginé le dispositif suivant pour mon expérimentation. Une lame de dentine seule ou recouverte d'émail recevait à sa partie supérieure une pipette réduite à sa partie capillaire et à une portion renflée d'un demi-centimètre cube environ, contenant un sucre et fixée très soigneusement à la cire collante après séchage parfait, pour éviter les erreurs inhérentes à une mauvaise adhérence de la cire. La partie inférieure est plongée dans du sérum physiologique ou de l'eau distillée en évitant que le niveau de l'eau n'atteigne la cire. A cet égard, Mahé fait une remarque très judicieuse à propos d'un récent travail de Herzig (Würzbourg) sur la perméabilité de la dent. Cet auteur fait pénétrer dans les racines au moyen d'un tube de verre relié à la dent par un tube de caoutchouc, des solutions variées (glucose entre autres, maintenues à niveau constant), puis quand la solution arrive à l'apex, il bouche celui-ci hermétiquement à la paraffine. Mahé croit que ce procédé permet difficilement une obturation absolument hermétique; quant à moi je la crois absolument illusoire. C'est pourquoi, au cours de mon expérimentation je n'ai jamais considéré que les résultats obtenus avec des dents qui, une fois la pipette enlevée, gardaient une couronne de cire collante absolument sèche et homogène.

Au bout de quelques jours (4 ou 5 en moyenne), dans mes expériences on voit le

sucre se mouiller puis s'imbiber complètement et enfin le niveau de l'eau après avoir dépassé le sucre, monter lentement mais régulièrement dans la partie effilée de la pipette.

Cette vérification qualitative confirme que la dent est une membrane semi-perméable. Les auteurs que la question avait intéressé ont en effet montré cette hémiperméabilité de la dent (Hermann en 1910, Bauchwitz en 1921, etc. . . . ) Pour l'évaluation quantitative du phénomène j'opère de la façon suivante: je pèse mon tube capillaire vide, au moyen d'une double pesée, avec une balance donnant le dizième de milligramme. Puis, après avoir bourré la partie renflée avec du sucre, je pèse à nouveau. Enfin, à la fin de l'expérience, je procède à la pesée du tube rempli d'eau sucrée. J'obtiens ainsi par différence le poids du sucre et de l'eau. Il faut également noter le temps exact de l'expérience; une cause d'erreur qui peut fausser la durée peut venir du fait que l'expérience est effectuée dans une pièce chaude qui provoque l'évaporation rapide du liquide baignant la dent, d'où nécessité de mettre le dispositif dans un endroit frais et, si possible, sous une cloche.

Les sucres employés ont été les suivants: glucose, dextrose, lactose, galactose, levulose, maltose, saccharose et mannose, soit sous forme cristallisée, soit sous forme amorphe obtenue par chauffage (caramel). Ayant fait ces expériences, il y a deux ans environ, je n'ai pu, à mon grand regret, mettre la main sur les chiffres obtenus à cette époque et mon ami Bernard m'ayant demandé le travail il y a dix jours seulement, je n'ai pu pendant ce temps — trop court — refaire ces recherches quantitatives. Mais je me rappelle, néanmoins, mes conclusions de cette époque:

1o Les dents vivantes seules présentent ce phénomène de façon constante;

2o Les différents sucres agissent à peu près à la même vitesse.

Les différences notées pouvant être aussi bien le fait des surfaces des contacts variables ou de différences inhérentes aux dents elles-mêmes, etc. . . .

Les résultats obtenus par Herzig, dont il a été question plus haut, quand il fait diffuser dans les canaux radiculaires des solutions de glucoses très concentrées, semblent infirmer les résultats que j'ai obtenus, mais la cause d'erreur énorme de son expérimentation m'empêche provisoirement de tenir compte de ses résultats, et d'autre part, je n'ai pas étudié la diffusion des solutions sucrées placées dans le canal radiculaire.

M'étant demandé si cette action déshydratante ne pouvait pas être suivie d'un déplacement centrifuge du calcium de la dent, j'ai fait pratiquer dans les solutions contenues dans les pipettes, en fin d'expérience, une recherche du calcium par la méthode Leullier et Veluz qui décèle ce corps jusqu'au centième de milligramme avec 2% d'erreur seulement. Toutes ces recherches ont été négatives.

Le problème est donc ainsi beaucoup plus subtil comme il était logique de le penser. C'est une recherche d'ensemble sur la perméabilité de la dent qui peut seule apporter une solution définitive. En effet, à part l'arsenic et l'erythrophléine qui peuvent atteindre la pulpe facilement, la plupart des médicaments ne pénètrent pas dans la dent. L'effet douloureux du sucre non électrolyte est comparable à celui moins constant et aussi plus fugace provoqué par les acides ayant une action déshydratante vis-à-vis des colloïdes, et dont les anions ou les cations pénètrent peut-être dans la dent en permettant un rétablissement plus rapide de l'équilibre des solutions. En effet, la plupart des acides organiques susceptibles d'être en contact avec les dents ont une constante de dissociation faible en regard de leur forte concentration possible ce qui leur donne souvent un pH relativement élevé, donc peu acide. Aussi s'ionisent-ils plus faiblement que les acides forts, immédiatement ionisés, puis tamponnés rapidement dans le milieu salivaire. D'autre part, les manifestations douloureuses dues au sucre ou aux acides ne sont pas constantes chez le même individu et n'existent souvent qu'en fonction des perturbations de l'état général. C'est pour cela que les électrolytes devraient faire l'objet

d'investigations systématiques surtout en rapport avec les variations chimico-physiques du milieu et du terrain.

Le problème de la perméabilité de la dent se pose en effet comme celui de toutes les membranes, c'est-à-dire celui des échanges sélectifs des ions se faisant dans les deux sens. Les travaux de Girard ont bien montré à ce propos que les actions diastatiques (oxydo-réduction, etc. . . . ) et catalytiques des membranes même non vivantes étaient des actions électro-capillaires dépendant de déséquilibres électrostatiques qui tendent à se réparer constamment par des échanges électroniques entre les substances en présence. Aussi on ne peut concevoir un équilibre biologique de la dent qui ne soit pas le résultat d'une interaction physico-chimique entre les milieux salivaires et humoraux de la pulpe. Weston Price pense que la bouche à l'état normal se trouvant à la limite d'alcalinité du point iso-électrique de la salive, ce point est suffisant pour maintenir un potentiel constant entre l'ion calcium de la salive et celui de la dent au point de retenir le calcium qui entre constamment dans la structure de la dent (Nogué).

Quoique exprimée sous une forme trop concise, l'idée d'un équilibre de l'ion calcium dans les liquides baignant extérieurement et intérieurement la dent est un des éléments primordiaux du problème de la carie. En effet, les facteurs qui règlent la perméabilité des membranes et en déterminent les variations sont essentiellement les sels et leurs ions métalliques. L'ion calcium par exemple est celui qui diminue le plus la perméabilité des membranes. Mais des milieux aussi complexes que les milieux salivaires et pulpaires où les ions diffusibles tels que: K, Na, Ca, etc. . . . , se trouvent avec des colloïdes non diffusibles créent une différence de pression osmotique et une différence de potentiel entre les deux faces de la membrane dentinaire. Aussi l'existence de cette polarisation de la membrane peut faciliter ou entraver le passage de telle ou telle espèce d'ions. On conçoit dès lors que le problème de la perméabilité des dents soit lié non seulement à l'équilibre d'un ion métallique, mais aussi aux équilibres colloïdaux salivaires et humoraux qui baignent la dent.

*A. Thibaudeau.*

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# *Questions et Réponses*

## Dr. GERARD DeMONTIGNY

Q.—Quand y a-t-il contre-indication à l'anesthésie locale?

R.—Avant de répondre à cette question, je veux amener la distinction qui existe entre l'anesthésie locale et l'anesthésie régionale. Nous sommes tous d'accord pour croire qu'il ne faut jamais pratiquer l'anesthésie locale, c.a.d. faire une injection dans une région infectée, c.a.d. dans des tissus dont l'état physiologique est détruit. Dans ces cas d'infection, suivie d'inflammation, il nous faut toujours recourir à l'anesthésie régionale par voie interne, ou par voie extra-orale. Si une telle procédure n'est pas réalisable, il faut employer le chlorure d'éthyle ou l'anesthésie générale.

Mais, je crois qu'ici, la question est posée pour reconnaître les patients qui réagissent mal à une injection de solution d'anesthésique local.

Les solutions anesthésiques de procaïne et d'épinéphrine à l'usage des dentistes sont en général bien tolérées par tous les patients à cause de leur faible teneur de procaïne et d'épinéphrine. En effet, quand nous injectons à un patient 2CC de solution à 2%, nous introduisons dans son système .04 de

gramme de procaïne; cette quantité est bien minime si on la compare aux doses de 5 à 10 grammes de procaïne que des chirurgiens injectent parfois à leurs patients pour pratiquer chez ceux-ci des interventions majeures chirurgicales. Nous voyons donc que la faible quantité de procaïne contenue dans nos solutions ne peut affecter en rien l'économie organique de nos patients.

Quant à l'épinéphrine, la proportion en est encore plus faible. 2CC de solution anesthésique renferment environ .00004 de gramme d'épinéphrine. Et cependant, dans les cas d'asthme bronchique, de fièvre des foins, d'embarrassement cardiaque, de pression sanguine trop basse, de prostrations, d'affaissement cardiaque, les médecins injectent à leurs patients, pour les stimuler, jusqu'à 3CC d'adrénaline, c.a.d. 3 grammes. On voit donc la différence des doses employées en dentisterie et en médecine. Le dentiste n'a pas à craindre l'injection d'une si faible teneur d'épinéphrine à ses patients.

Cependant, à cause de l'action vaso-constrictrice bien énergique de l'épinéphrine, il suffit parfois d'injecter une quantité infinitésimale de cet hormone des glandes surrénales pour assister à des réactions ennuyeuses et pour le patient et pour le dentiste. Ce phénomène a été expliqué par le Dr. Cannon qui prétend que cet hormone est distribué dans le sang par les glandes surrénales, quand le système se met en état de défense, en face d'un choc ou quand l'individu appréhende une secousse ou une intervention chirurgicale.

Et ainsi, tous les patients qui se présentent à nos cabinets ne le font qu'avec une certaine répugnance ou une certaine crainte qui fait que la teneur d'épinéphrine normalement contenue dans leur sang est augmentée spontanément par leur nervosité ou leur appréhension.

Et ces patients à qui on injecte une dose infinitésimale d'épinéphrine, c.a.d. d'une substance qui est très active et qui est déjà en présence en quantité plus grande que d'ordinaire dans leur sang, souffrent parfois, à la suite de l'injection, de réactions nerveuses qui se manifestent par des vomissements, pâleur de la face, tremblements, étourdissements, perte de connaissance, taxicardie, etc.

La plupart des réactions fâcheuses observées chez les patients sont d'un ordre psychique. Le patient appréhende l'injection ou l'extraction et cette crainte chez les nerveux suffit parfois à déclancher toutes les manifestations mentionnées plus haut. L'opérateur tentera par tous les moyens possibles de calmer et d'encourager son patient. Le dentiste doit en outre éliminer tout ce qui est de nature à énerver l'opéré: bruit, exhibition des instruments de chirurgie, odeur de médicaments, etc. Une prémédication est souvent à conseiller (bromure ou dérivé barbiturique—barbital de sodium, nembutal, etc.)

**Interrogé par Dr Claude deGrandmont.**

Q.—Conseillez-vous d'employer parfois des solutions de borate de procaine ne contenant pas d'épinéphrine, telles que préparées par la maison Searle de Chicago?

R.—Parfois, il est à conseiller d'employer des solutions sans épinéphrine pour certains cas particuliers: j'y reviendrai plus tard en parlant des cardiaques. Mais je vous ferai remarquer que des solutions sans épinéphrine ont aussi leurs inconvénients. En effet, l'épinéphrine est mise dans les solutions pour nous permettre de diminuer la dose de procaïne, pour rétrécir le volume des vaisseaux sanguins et, par ce fait, diminuer l'écoulement sanguin durant l'opération et retarder l'absorption de la solution en maintenant la durée de l'anesthésie.

Il y a différents moyens mis à notre disposition pour éliminer les réactions fâcheuses observées chez les patients à la suite d'une injection. 1° Il faut

prendre garde d'injecter la solution dans un vaisseau sanguin (veine) car la toxité de la solution, dans ce cas, est de 4 à 16 fois plus grande par le fait que tout l'épinéphrine contenu dans la solution est transporté au coeur beaucoup plus rapidement. Il est bon, chaque fois que nous injectons, de retirer le piston et de constater si le sang s'infiltre dans le baril de la seringue: les dentistes ont un handicap que rencontrent rarement les chirurgiens par le fait qu'ils travaillent dans un milieu, sur des tissus qui sont totalement irrigués de vaisseaux sanguins. 2° Une injection trop rapide de la solution produit aussi un choc très violent pour le patient: il ne faut pas que tout le contenu d'épinéphrine de la solution arrive en même temps au coeur—nous savons que la circulation du sang dans tout l'organisme se fait dans 30 secondes, alors l'injection doit être faite très lentement, à raison de 1CC par minute. Une injection lente a, de plus, l'avantage de diminuer ou d'abolir le traumatisme possible aux cellules, quand le liquide sort de l'aiguille avec trop de pression ou de vélocité.

3° Le patient, en outre, doit être légèrement penché, la chaise doit avoir un angle de 45°. Dans une étude du Dr. Mayer, publiée dans le Journal of the American Medical Association, en octobre 1921, on y lit que sur 27 morts causées par un anesthésique local, 19 survinrent quand les patients étaient dans une position verticale.

Il y a cependant trois catégories de patients qui supportent mal l'épinéphrine:—

1. les hypertendus ou les gens souffrant de tachycardie; leur pression sanguine est déjà trop élevée et l'épinéphrine contribue à élever davantage cette pression.
2. les hyperthyroïdiques ou les thyrotoxiques; leur métabolisme basal est déjà trop grand et l'adrénaline stimule leur circulation sanguine; ils sont de plus hypersensibles à l'action de l'épinéphrine.
3. les idiosyncrasiques, ou ceux qui tolèrent mal ou qui ont une susceptibilité propre et particulière pour l'épinéphrine.

Les deux premières classes de patients ne peuvent être reconnues qu'à l'aide d'une consultation avec leur médecin ou qu'aux renseignements fournis par les patients eux-mêmes.

Si le pouls du patient reste au-dessus de 90° après quelques minutes de repos mental et physique, on doit soupçonner que le patient appartient à une des deux classes précitées. L'emploi d'une solution sans épinéphrine s'impose dans ces cas.

La troisième catégorie de patients ne peut malheureusement pas se reconnaître. Seules les aventures précédentes du patient peuvent nous guider. D'ailleurs, ces individus se rencontrent rarement.

**Interrogé par Dr. Archambault:—**

Q.—Comment expliquez-vous la réaction de vomissements à la suite d'une injection?

R.—Cette réaction s'explique par le fait que l'épinéphrine exerce son action sur le grand sympathique qui contrôle tous les réflexes et les muscles lisses ou non-volontaires de l'organisme. Alors, l'estomac étant formé de muscles lisses qui ne sont pas soumis à la volonté du patient mais qui sont contrôlés par l'action du grand sympathique, est susceptible d'être dérangé dans son fonctionnement physiologique, à la suite d'une injection d'épinéphrine. Ces cas se rencontrent surtout chez les patients qui viennent d'ingurgiter un repas lourd et riche; leur estomac est déjà fatigué ou congestionné.

Q.—Vous servez-vous d'anesthésique local chez un enfant?

R.—Il n'y a pas de contre-indication à l'emploi de solution anesthésique local chez un enfant normal si on a soin d'observer tous les principes qui règlent son emploi. Il y aura peut-être lieu, cependant, de diminuer la quantité ou le dosage de la solution.

Q.—Préférez-vous l'anesthésie locale ou générale lors de l'extraction complète des dents? Pourquoi?

R.—Je préfère l'anesthésie locale pour plusieurs raisons dont les principales sont celles-ci: le choc est moins grand chez le patient; il supporte mieux l'anesthésie locale que l'anesthésie générale; le patient peut coopérer avec son dentiste en rinçant sa bouche au besoin, en déplaçant sa tête, en accentuant l'ouverture de sa bouche, etc, à la demande de l'opérateur. Le dentiste peut travailler avec plus de lenteur, plus d'aise et plus de soin quand les dents sont anesthésiées localement. Il n'a pas de barrages et d'ouvre-bouches qui limitent ses mouvements; il peut ruginer, aplanir les maxillaires, faires des points de suture, enlever avec précaution les bouts de racine qui sont susceptibles de se fracturer lors de l'extraction, etc.

Mais, cependant, je ne conseille pas l'extraction complète des dents à une seule séance. Le choc opératoire est trop grand pour le patient; le danger d'hémorragie est plus à craindre, les pertes de sang sont plus grandes et le patient est souvent dérangé dans ses occupations journalières.

Il faut aussi se placer au point de vue psychologique du patient, qui restera édenté durant plusieurs semaines, en éprouvant des difficultés en face de la mastication, de la phonation, de son apparence extérieure, et il faut penser que l'articulation mandibulo-maxillaire subit plus de changements quand le patient reste édenté durant un temps plus ou moins long.

Voici ce que je fais quand un patient doit faire extraire toutes ses dents: à une séance, j'extrais les dents postérieures d'un côté, du haut et du bas, de la 3ième molaire à la canine ou latérale; j'attends une semaine; j'enlève ensuite les dents du maxillaire opposé à celui dont l'extraction a été faite précédemment; j'attends une autre semaine. Je vous ferai remarquer que durant tout ce temps le patient a pu manger à l'aide des dents antérieures et celles du côté opposé, il a pu vaquer à ses affaires, car son apparence faciale n'a pas varié grâce à ses dents antérieures qui sont toujours en place; sa phonétique n'est pas changée, car les dents antérieures sont celles qui servent à articuler les mots; les rapports de la mandibule et du maxillaire n'ont pas varié et l'articulation n'a pas changé.

On procède ainsi jusqu'a ce que toutes les dents aient été extraites, excepté les dents antérieures du haut et du bas. Je vous prierai de remarquer que les premières dents ont été enlevées depuis un mois et les gencives sont assez bien guéries après ce laps de temps.

On attend encore 15 jours et ensuite on enlève les dents antérieures du haut et du bas, à moins qu'on donne au patient ce que les Américains appellent le "immediate denture service".

Au bout d'une semaine, les gencives sont suffisamment guéries pour la prise d'empreinte. Au point de vue économique, cette manière de procéder a l'avantage pour le dentiste de voir le patient laisser un acompte à chacune de ses visites et de commencer ainsi le paiement de ses prothèses.

**Interrogé par Dr. Pelletier:—**

Q.—Connaissez-vous des cas où l'extraction des dents est contre-indiquée?

R.—Je ne connais que l'angine de Vincent qui prohibe l'extraction des dents; à ce moment il y aurait danger d'introduire dans la circulation des bactéries qui

causent cette infection. Dans le cas d'hémophilie, il ne faut pas procéder à l'extraction des dents sans avoir au préalable traité le patient, et dans ces cas l'extraction de plusieurs dents à la fois ne doit pas être entreprise à une même séance. Pour toutes les autres affections, il est bon de consulter le médecin traitant avant d'extraire les dents.

Q.—Dans les cas de débilité générale, chez les cardiaques, les diabétiques ou les anémiques, quel genre d'anesthésie faites-vous?

R.—L'anesthésie locale. Chez les diabétiques, rien ne s'oppose à l'anesthésie locale; cependant il ne faut pas enlever plusieurs dents à la fois car la réparation des tissus se fait assez mal. Dans les cas de débilité, si on prend les précautions nécessaires en injectant lentement et diminuant en autant que possible les effets psychiques, il n'y a pas de contre-indication. Au contraire, chez les débiles la circulation sanguine étant lente, l'épinéphrine va activer la circulation et, théoriquement, l'anesthésie locale fait du bien. Chez les cardiaques, il faut tâcher d'user d'anesthésique sans épinéphrine, à la procaïne seule. Pour l'angine de poitrine, user d'anesthésique sans épinéphrine, à la procaïne seule, parce que la pression est assez élevée et ce la pourrait amener des complications.

**Interrogé par le Dr. Caza:—**

Q.—Dans un cas de diabète, l'opérateur peut-il se servir d'anesthésie locale? Je me souviens d'un cas où il s'agissait d'extraire une 2ième molaire supérieure, abcédée; nous avons endormi la patiente qui, à notre insu, souffrait de diabète, et des complications ont amené la mort. Croyez-vous que l'anesthésie locale aurait pu améliorer la situation?

R.—Si la patiente avait été injectée pour produire une anesthésie régionale, le résultat n'aurait certainement pas été pire! Mais même connaissant son état, j'aurais procédé de la même manière.

Q.—Même si l'on sait avoir affaire à un diabétique?

R.—Ce n'est pas l'injection qui est contraire, c'est le fait que les tissus se réparent très mal.

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## *Le docteur Paul Geoffrion, F.I.C.D.*

Nous venons de recevoir une nouvelle qui ne manquera pas de faire plaisir aux confrères.

Au dernier congrès de Cleveland il fut décidé de décerner au docteur Paul Geoffrion le titre de F.I.C.D., Fellow of the International College of Dentists.

C'est un honneur qui ne s'accorde qu'après mûre réflexion et si nous ne nous trompons pas, notre confrère est le premier canadien-français à qui cet honneur est conféré.

Nos plus sincères félicitations.

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## *Note*

*Fausses dents, âgées de 3000 ans:* Berlin 26 juin 1937.—Près d'Aschaffenburg on vient de dégager un tumulus datant de l'époque de Hallstatt, où on a trouvé sept couronnes dentaires en bronze, elles sont de grandeurs différentes et se trouvaient dans deux urnes.

C'est le premier témoignage de l'art dentaire remontant à l'âge préhistorique que l'on possède jusqu'à ce jour. Cette trouvaille a été déposée au Musée d'Aschaffenburg.

## *"Grande langue"*

*Contribution à l'étude de la "grande langue" comme cause de malformations dentaires.— Résumé de l'Odontologie, janvier 1939.*

Dans les cas de "grande langue" (oversized tongue des auteurs de langue anglaise), le volume de cet organe est légèrement augmenté; il y a dissociation, manque de correspondance volumétrique entre le "contenant" (délimité par les maxillaires et les arcades dentaires) et le "contenu": la langue.

Il importe de discerner exactement ce rapport anormal du contenant et du contenu, de l'entité morbide décrite en pathologie sous le nom de macroglossie qui est un processus pathologique caractérisé par une augmentation considérable du volume de l'organe qui finit par ne plus être contenu dans la cavité buccale et en sort. Comme disent Bourgeois et Lenormand "la langue perd son droit de domicile dans la cavité buccale".

Il faut aussi ne pas confondre la "grande langue" avec les processus pathologiques qui peuvent frapper cet organe (tumeurs, glossites, hypertrophie de la langue des acromégaliques.

Le sujet, géné par cette langue trop grande contracte des habitudes pernicieuses. Les déformations que peut occasionner la "grande langue" peuvent se produire dans les trois sens. Dans le sens vertical elle produit des béances (open-bite) qui peuvent être antérieures, latérales, ou totales. Dans le sens frontal, elle produit des diastèmes entre les dents antérieures, et des vestibulo-versions des prémolaires et molaires.

Dans le sens sagittal elle produit la version des dents antérieures. Cette version peut aboutir à l'inversion des rapports des incisives et donner le change avec une prognathie mandibulaire vraie ou une prognathie par proglissement. Le traitement vise à la perte des habitudes pernicieuses (succion de la langue: tongue sucking; mordillement de la langue: tongue biting). L'auteur préfère aux appareils amovibles à plaque du type Hawley, un arc lingual inférieur double dans lequel l'arc supérieur s'oppose à l'interposition de la langue entre les arcades dentaires.

Les diastèmes interdentaires sont corrigés à l'aide de l'arc vestibulaire.

La récidive est excessivement fréquente et une contention prolongée, parfois permanente, est nécessaire.

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## *Dentition et Denture*

*(La France Dentaire—Janvier 1939)*

Un de nos confrères de Strasbourg appelle fort judicieusement l'attention, non sans humour, sur l'emploi défectueux que font un grand nombre d'auteurs, et des plus réputés, du mot "Dentition".

Littré, dans le Dictionnaire de la langue française, édition 1863, dit textuellement: "C'est une faute de dire une belle dentition pour une belle denture." Car, dit-il dans l'article Dentition, celle-ci est: "L'éruption naturelle des dents aux diverses époques de la vie," alors que la denture est l'ensemble anatomique des dents.

Les dictionnaires plus récents, celui de Larousse par exemple, répètent aussi que "Dentition" signifie "Formation, accroissement et sortie naturelle des dents". "Denture" signifie ensemble des dents, manière dont les dents sont rangées. On dira par exemple: La dentition est une époque périlleuse chez les enfants: Cette jeune fille a une magnifique denture.

En somme la "dentition" est le processus physiologique qui forme la "denture". Sachons donc employer plus souvent ce mot de "denture", laissé trop de côté par les auteurs modernes. Une bonne note à l'Alsace de nous avoir rappelé au respect de notre langue française.

*P. D.*

A vision of enchanting loveliness is Lucerne, Switzerland. Here the modern and mediaeval are carefully blended and Mount Pilatus towers as a majestic sentinel in the background.

*—Photo Franz Schneider, courtesy Swiss Federal Railroads, and Saturday Night.*

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*When I was a child I invented a kind of game of which no one but myself knew and which I played alone. The world—my small-boy world—was a great forest, populated by murderous Indians. My room was a stockade. The staircase and the hall were extra hazardous places, but once I negotiated them, darted into my tiny chamber and bolted the door, the Indians were shut out.*

*Growing up, I ascribed my passionate desire for a home to this game. "What I really want," I decided, "is another stockade." Gradually I have discovered that this is what almost every living creature wants.*

*The woods have always been full of Indians, and as we and the world grow older our need of a haven seems to increase. We go out to meet and fight them in the morning, but when evening comes we want peace and rest. Millions of keys turn in millions of locks, millions of doors close behind us, millions of voices cry, "Here I am, dear; home at last," and the Indians are shut out.—Channing Pollock in the "American Magazine".*

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Archivist and Historian of Ontario Dental Association, 1935-37.

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# A Technical Description of the Intravenous Administration of Pentothal Sodium Based on Experience in More Than 12,500 Administrations *

by JOHN S. LUNDY, M.D.,
Section on Anaesthesia, The Mayo Clinic, Rochester, Minnesota.

THE intravenous method of anaesthesia is sufficiently new so that from year to year definite improvements occur in the technical application of the agents that are used. Since June 1934 to the present time, we have used pentothal sodium (sodium ethyl 1-methyl butyl thiobarbituric acid) more than 12,500 times as an intravenous anaesthetic at The Mayo Clinic and these remarks are based on that experience. The subject will be presented in the same manner as the steps in the technique are followed by the anaesthetist in the average case.

For the average adult, we use 1½ grain (0.1 gm.) of pentobarbital or pentobarbital sodium (nembutal) at bedtime the night before operation. The same dose is repeated at 7 o'clock the next morning or an hour before operation and 1/6 grain (0.01 gm.) of morphine sulfate and 1/150 grain (0.0004 gm.) of atropine is given by hypodermic injection. The use of this preliminary medication is definitely advantageous and although it has been said that preliminary medication should not be administered, we are convinced that it should be used.

If the preliminary medication which has been given does not seem to be effective when anaesthesia is induced, an additional amount of morphine, from 1/6 to ¼ grain (0.01 to 0.016 gm.), may be administered intravenously through the same needle that is used to administer the pentothal sodium. Then, the effect of the preliminary medication and of the additional morphine on the patient will be definite and will usually be sufficient so that only the average amount of pentothal sodium will be needed. This is of particular advantage in cases in which the patients are large, robust and resistant to anaesthesia and to whom it would otherwise be necessary to administer too large an amount of pentothal sodium in order to produce anaesthesia. In the average case the preparation of the solution to be used is carried out as a rule immediately before its administration. However, in institu-

* Read before the meeting of the Ohio Society of Anaesthetists, Toledo, Ohio, May 4, 1939.

tions in which the solution is used in a large number of cases during the day, many doses of the drug may be prepared the first thing in the morning and used throughout the day. If some of the solution is not used, it may even be used the next day providing it has been in a syringe from the time it was prepared until the time it was used, that is, it should be kept sterile and relatively free from exposure to air. The strength of the solution should be 2.5 per cent. This concentration is just as effective as a 5 per cent solution when injected twice as rapidly. It gives the anaesthetist an additional feeling of safety as he can less rapidly overdose an individual with a 2.5 per cent solution than with a 5.0 per cent solution. If a 5 per cent solution is used phlebitis occurs in approximately one case in every 1,000 but if a 2.5 per cent solution is used it occurs in only about one case in 3,000. The extravenous injection of a 2.5 per cent solution has not caused untoward results. The use of analeptics, such as coramine (a 25 per cent solution of pyridine betacarbonic acid diethylamide), mixed with the solution of pentothal sodium at one time seemed to result in better pulmonary ventilation. However, it has not been found necessary to use coramine in this connection routinely, although in some cases it has been given intravenously alone after the injection of pentothal sodium has been discontinued, in an effort to arouse the patient. Like all other vasoconstrictors and stimulants it tends to elevate the blood pressure and in most cases will produce a temporary definite stimulation which is usually interpreted as a recovery from the anaesthetic. Benzedrine has been recommended for this purpose and also ephedrine, adrenalin and perhaps other agents, but the general proposition that a vasopressor will give a hypertensive effect is the basic explanation for use of such drugs. This fits in very nicely with the clinical experience of those who have had to anaesthetize hypertensive individuals and find that the induction of anaesthesia is often prolonged and difficult unless some drug which will lower blood pressure is administered prior to or during the period of induction, so that the systolic blood pressure will be definitely lowered (10 mm. to 30 mm. mercury) instead of the usual elevation. If the intravenous injection of the anaesthetic does not lower the blood pressure it may produce a moderate elevation in blood pressure. In the latter case one might say that the elevation would have been much greater if the intravenous anaesthetic had not been given. In the case in which the blood pressure does rise to a very high point in spite of the use of an intravenous anaesthetic some other agent must be used to lower the pressure.

The most convenient needle is a short-bevelled, twenty-gauge needle that is 1¼ inch long. In cases in which the patients are very sensitive a wheal is raised in the skin at the site of venipuncture with procaine but most patients do not object to the use of the needle if it is sharp. A technique for venipuncture which makes it relatively easy is as follows: A vein in the antecubital fossa of the arm or in the ankle is palpated and if, after a tourniquet is applied, it seems to be large enough to admit the needle, the skin over it is painted with an antiseptic solution such as metaphen or merthiolate and the vein is stretched tightly by the anaesthetist by using the tourniquet as an anchor. The attachment of the vein to the tissues makes it possible to stretch the vein by pulling on the patient's skin a short distance from the site of venipuncture. The distance from the tourniquet to the point of venipuncture should be short (about 2 inches). The plunger of the syringe should be grasped by the

fingers of the right hand and the point of the right thumb should be pressed against the end of the barrel of the syringe. As soon as the bevel of the needle has perforated the skin the aspiration should be carried out by producing negative pressure in the barrel of the syringe. In this way, the moment the needle enters the vein the blood will appear in the syringe and one will not be in doubt as to where the point of the needle is. The tourniquet then should be immediately released and 1 c.c. of solution injected to be still more sure that the point of the needle lies within the lumen of the vein. Where tiny veins are to be used, the bevel of the needle should be held down, that is against the skin at the time of insertion. If the needle is large, the bevel of the needle may be held up. If the veins are very small, the application of heat for fifteen or twenty minutes prior to venipuncture will congest the extremities with blood so that when the tourniquet is applied and the patient is asked to clench his fist the veins, even though small, will be well dilated and a venipuncture can be done. If a vein in the ankle is to be used, one must be certain whether or not varicose veins are present. In case varicose veins are present the solution must be injected more slowly than usual and the blood in the vein should be massaged toward the knee to increase the flow of blood so that the patient will receive the drug steadily and will not receive a sudden overdose.

As soon as the surgeon is ready for the patient to be anaesthetized, injection is begun. In the average adult, we inject about 5 or 6 c.c. of a 2.5 per cent solution and then ask the patient to count at a rate of about one per second. If the count reaches fifteen and the patient does not show signs of drowsiness, an additional 2 c.c. of solution is injected and if the patient still does not show signs of drowsiness in five seconds an additional 2 c.c. is given every five or ten seconds until the patient does become drowsy and ceases to count. At this point, if the operation is to be a dilatation and curettage or some procedure below the level of the clavicle, the patient may be moved into the operating position and the operation may be started. If the operation is to be on the side of the neck and the lesion is inflammatory, the incision should not be made when the patient first goes to sleep but an interval of a minute or two should elapse and then a second injection of drug should be given so that the patient will be deeply anaesthetized. Under light anaesthesia an incision made in the presence of an inflammatory lesion may affect the carotid sinus reflex and cause a sudden cessation of the heart beat. Under deep anaesthesia this does not occur either clinically or experimentally, according to Weese. (2)

In cases in which manipulation in the mouth and pharynx such as bronchoscopy is to be carried out, the mucous membranes of the pharynx should be anaesthetized with a local anaesthetic before the intravenous injection is begun. If an intratracheal tube is to be inserted under intravenous anaesthesia, the throat should be sprayed with a 5 or 10 per cent solution of butyn or metycaine and a mouth prop should be placed between the teeth on the left side of the mouth. The laryngoscope should be inserted as far over the tongue as can be done conveniently without causing the patient discomfort. Then venipuncture should be carried out and from 5 to 10 c.c. of the solution of pentothal sodium should be injected quickly. As soon as the patient shows signs of being asleep, the laryngoscope should be quickly advanced into the oropharynx, the epiglottis should be picked up and the tube should be inserted between the vocal

cords. This must be done deliberately so that the second attempt will not be necessary, for as soon as the tube strikes the vocal cords and fails to enter the larynx a laryngeal spasm often occurs. The patient is then in a critical condition, becomes very cyanotic, especially when the throat is not cocainized, and oxygen will have to be administered under pressure. It may become necessary to administer a dose of atropine intravenously.

If the operation is to be an intra-abdominal one, it is advisable that a block of the abdominal wall should be carried out before or during the time that the injection is made, or an infiltration of the line of incision may be done. Local anaesthesia, thus produced, assists in making the incision and closing the wound.

For minor operations, light anaesthesia is usually sufficient and in such a case the patient will be able to ventilate himself with air sufficiently to maintain good colour. In cases in which deep anaesthesia is necessary for operations in the abdomen, the simultaneous administration of oxygen from a gas machine brings about a very beneficial result. The resistance to expiration and inspiration seems to make a difference in the breathing of the anaesthetized patient but this probably is due to the accumulation of carbon dioxide in the rebreathing in the apparatus. Most patients do not perspire during the anaesthesia. The systolic blood pressure will be lowered somewhat (for example, perhaps 20 mm. of mercury) but at any time an intravenous injection of 25 mg. of ephedrine will usually raise the pressure. For a very prolonged operation, nitrous oxide may be mixed with oxygen in the proportion of 60 to 75 per cent nitrous oxide and 40 to 25 per cent oxygen, with surprisingly good results. In cases in which a fireproof anaesthetic is to be employed, it is difficult to find a much more satisfactory combination of anaesthetics for an adult than pentothal sodium administered intravenously and nitrous oxide and an excess of oxygen administered by inhalation. This combination deserves a relatively good trial in the light of recent experiences with explosions of inflammable anaesthetic gases. If there is no objection to the administration of ether, it may often be combined with nitrous oxide and oxygen to advantage.

The usual effect of a barbiturate in delaying the onset of shock will be less following the use of pentothal sodium than it will when a longer acting barbiturate has been given. The use of pentobarbital as an anaesthetic or nembutal as preliminary medication usually seems to give this desired effect, namely, a delay in the onset of shock which might have appeared shortly if a barbiturate had not been used.

The use of an intravenous anaesthetic, such as pentothal sodium or evipan (sodium n-methyl C-C-cyclo-hexamyl-methyl barbituric acid) for the induction of anaesthesia prior to the administration of inhalation anaesthetics is much appreciated by most patients and has the advantage already stated, that is, in cases of hypertension it usually makes induction easier than would otherwise be. The use of pentothal sodium in connection with many other anaesthetics, especially those used to produce regional anaesthesia and even spinal anaesthesia, has been reported and this method is frequently used in many institutions. As I stated previously pentothal sodium and regional anaesthesia gives an excellent combination without the danger of fire or explosion.

In many instances sulfanilamide is used for the preoperative preparation of the patient. It has been suggested that when full doses of sulfanilamide have been given evipal sodium should be used

instead of pentothal sodium as the latter contains sulfur and may produce untoward results. Although there is no definite clinical proof of this contention, it is felt that evipal sodium is the preferred agent to be used in conjunction with sulfanilamide. It is questionable whether any barbiturate should be used with sulfanilamide. (1)

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# *Amalgam, Its Uses and Abuses**

by F. J. VINER, D.D.S., F.A.C.D., Omaha, Nebraska †

WITHIN the past few years much research has been done and much has been written on the problem of dental amalgams. Let me assure you, however, that we are just scratching the surface and much more work remains to be done.

Amalgam, as a restorative material for lost tooth structure is, without a doubt, the most used and the most abused of all the other filling materials combined. It is used firstly because of the cheapness of the material itself, and secondly because of its apparent ease of manipulation. On the other hand we can truthfully say that it is the most abused, because the greater number of operators refer to it as merely silver, considering it as a very common filling material which requires little if any technique in its application. There is no other material used by our profession, with which so much sloppy work is done; neither is there any material that we use which lends itself so completely to sloppy work. In most of our practices more restorations are made with amalgam than with all of the other materials combined. Since it is used so much, may I make a plea to use it more intelligently and more conscientiously. We firmly believe, along with other investigators, that amalgam, under proper manipulation, is second only to gold foil as a tooth restoring and preserving medium. In the States we have, under the regime of the "New Deal," the under-privileged and the over-privileged. Many operators seem to have the idea that amalgam is only for the under-privileged, but it also has its place for the over-privileged. In spite of the fact that it is the most abused of our filling materials, it has saved more teeth than all others combined. After all, our honourable profession must be first concerned with the saving and conservation of tooth structure. Why, may I ask you, has there been so much activity and research recently in the prevention of dental caries?

Regardless of the extensive research being carried on for the prevention of dental caries, we shall be concerned with the restoring of lost tooth structure through that disease for quite some time to come.

But first; to make anything well, requires a comprehensive knowledge of the raw material used, combined with technical skill which will produce the desired result. Very few of us have the necessary equipment, time, or even ability to arrive at first hand knowledge through experimentation; however, the

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information is available through publications of scientific workers in this field, and moreover, the diligent application of fundamental principles and attention to detail will increase our technical skill. I feel quite sure that if the members of our profession would combine these two precepts and apply them understandingly in the making of amalgam restorations, the resultant product would be one of which anyone could be proud. It is indeed a sorry fact that so little attention has been paid to the physical properties of our most universally used and most economical restorative material for lost tooth structure, rated as second, and so much attention has been paid to the more expensive materials.

We have gathered together the works of prominent investigators in this field, and have tried out their results both intra-orally and extra-orally, with profitable results. All credit must be given to the men who have given so much of themselves for the betterment of the profession. Without their work we might still be in an empirical state. We have done some little research ourselves and we give you the results with the hope that they may be of some benefit.

### History of Amalgam

To understand thoroughly the material with which we are working and to obtain the best results, requires some knowledge of its history and background. It is especially so of amalgam. It is no blue-blood. As we understand the word it means a combination of two or more metals, one of which is mercury. Amalgam, originally comes from the Greek and in its various combinations means, "To marry." Early in its use the different combinations of metals used were, to put it in the words of Mr. Van Porter of Amos and Andy, of radio fame, "very unhappy." The exact date of the first use of amalgam for filling teeth is not known. It is probable that it might have been the outgrowth of the work of a gentleman by the name of Regnart, who, in 1818, attempted to produce a low fusing alloy for this purpose. In 1826, Taveau's "Silver Paste" emerged; this seems to have been a combination of silver and mercury and this led to the shaving of silver coins, combining them with mercury and in time a little copper (probably silver was as scarce in the pocket of those days as today), to make a material with which to fill cavities in teeth. Needless to say one can readily imagine the result.

Between the years 1830 and 1833, amalgam was introduced to the United States by the supposedly good brothers Crawcour. The name used for this marvellous new material was "Royal Mineral Succadaneum." (Some name for the damage it caused). They opened offices in New York and through expert advertising their practice grew by leaps and bounds. Since the material came from abroad the dentists of that time thought it must be good and watching the practice that the Crawcours were building, took to it with great gusto, much to their sorrow and the sorrow of the unfortunate patients. The material, a combination of silver shavings, with at times, the addition of a little copper, caused untold damage. The Crawcours proved to be somewhat on the shady side, not even being dentists, and the material that they had introduced proved to be worse.

No doubt a great part of the stigma attached to amalgam was the result of this introductory use to the profession. We lose confidence when once fooled and as you all know, it takes many years to rebuild in our minds what has once been destroyed, even with proof. In spite of the fact that the early amalgams were, to put it mildly, worthless, a number of the profession still continued to

F. J. VINER

use it. In 1845 the feeling became so acute among the members of the profession that the great amalgam war took place. The American Society of Dental Surgeons, newly organized, passed a resolution that:— "Any member of this society who shall hereafter refuse to sign a certificate pledging himself not to use any amalgam and, moreover, protesting against its use under any circumstances in dental practice shall be expelled from this society." No wonder it has taken us many years to come out of the dark ages.

Due to the great differences the order was rescinded in 1855 and evidently, the profession, so far as research in amalgam was concerned did little and went happily on its way. Some work in the meantime was being carried on by men who realized that perhaps something might come of it. Perhaps the first man to really take up the subject with this thought in mind was John Thomes of London. Others had, during the intervening years and later, made some contributing advances toward the cause of amalgam.

Nothing of importance was brought forth until 1895, when G. V. Black produced his monumental work on the "Physical Characters of the Human Teeth in Relation to Their Diseases and to the Physical Characters of Filling Materials."

Much of what Dr. Black told the profession in this great series of papers was not new. Many of the facts presented were well known, but what they meant, if anything, had never been determined. Dr. Black took these isolated facts, traced out their origin, grouped them together in a rational order, showed how they were related, what their effects were, how to counteract or control injurious factors and how to utilize those that were helpful. The land of promise had been discovered. Dr. Black gave to the profession the formula for a balanced amalgam alloy. From that time forward we find a steady improvement and refinement in the alloys manufactured and today we have some unusually high grade products. It is indeed unfortunate that the profession, as a whole, has not advanced proportionately in the scientific use of this material.

When Dr. Black first began his in-Practical Dental Operations together with

vestigations on amalgam, the alloys then in use were not dependable, to say the least. Even at that early date after his experimentations with the balanced formula, it was possible to say, "Fillings made of the properly balanced modern amalgam alloys are a close second to gold in their durability and in their properties against the recurrence of decay." Recently, Dr. William Harper has said, "When representative high grade alloys are used, our amalgam failures, (and there are far too many), are always the result of operative faults, generally the result of faulty amalgam manipulation and occasionally due to defects in cavity preparation." I would broaden the last part of the statement to say that perhaps it might be a fifty-fifty proposition, faulty in both respects. The burden is now laid directly on the shoulders of the profession. It has frequently been said, that the manufacturer makes the alloy but that the dentist makes the amalgam.

### Standardization of Alloys

The first work on the standardization of amalgam alloys, was undertaken by the United States Bureau of Standards in 1919. This problem undertook to investigate the quality of the alloys then on the market and to set up a standard of materials for the guidance of the various departments within the government that were using such supplies. From the data collected a specification was set up and issued in 1925. (Occasionally it takes a considerable length of time for even governmental wheels to turn). The specifications were generally accepted by the manufacturers.

This investigation was a very fortunate one for the profession and as the years rolled on, more and more research work was done on the problem of amalgams. In 1928, a research fellowship was founded at the National Bureau of Standards by the American Dental Association for a complete study of the matter. In 1934 this research division, of the American Dental Association issued the specifications for an amalgam alloy that is in vogue today. I believe that this was really the shot that started the several amalgam workers on the way with the plea and the place of amalgam in dental practice.

The manufacturer was now put on the spot, so to speak, if he was to continue to market his product. The American Dental Association, laid down rigid specifications and it was up to the manufacturer to meet them. These specifications, as research progresses, are revised from time to time. We now know what we are after. With the research division of the American Dental Association in collaboration with the United States Bureau of Standards, checking and testing his claims, the manufacturer must be very careful to produce a quality product. Let us ask at this time just what we demand in the way of a high grade alloy. He, the manufacturer, must have consideration for the chemical composition, the refining of the metals, the method of melting, the method of cutting, the particle size, the annealing and the alloy-mercury ratio to be used in making the mix, so that the resultant product will be sufficiently soft and plastic to permit easy insertion and good adaptation to the cavity walls. Furthermore, it must have the quality of setting soon after being placed and it must not expand or contract appreciably after being inserted into the cavity. Finally it must possess sufficient hardness, toughness and strength to resist attrition, it must have good edge strength and must be resistant to the oral fluids of the mouth. All of these properties we demand of a quality alloy and we have found that the reputable manufacturers are giving them to us. Metallurgists treat amalgams as solid solutions, per-

haps that is one reason why so many amalgam restorations appear to have been poured into the cavity or pushed in with the thumb, the thumb not being unduly injured during the process.

### Composition of Alloys

With the exception of copper amalgam, the alloys used today are essentially a combination of silver and tin, with a small percentage of copper added to increase crushing strength and a very small percentage of zinc. The reason for addition of the zinc is not very clear. It has been suggested by Skinner, however, that the real explanation is to be found in its deoxidizing influence during the original melting and casting of the alloy, that is, it is introduced as an aid to the manufacturer rather than for any beneficial effect it may have from the user's point. At any rate it does no harm and may do a great deal of good. The ideal amalgam alloy would have no initial contraction and only enough expansion to hold it tightly in contact with the cavity walls. We haven't arrived as yet but are on the way.

In analyzing and testing the present day high grade alloys, we find that practically all of them follow the specifications of the research commission of the American Dental Association quite closely; that is, 65% minimum of silver, 25% minimum of tin, 6% maximum of copper and 2% maximum of zinc. (The average alloy according to Taylor would run something like this, 67.73% of silver, 26.33% of tin, copper 4.71%, zinc 1.23%, so you can see, that in the aggregate they are not far from the original specifications.) All of the alloys tested are well over the crushing strength of 35,000 pounds per square inch, all have a very small percentage of flow, which is necessary, so that our amalgam may have proper tensil strength. It might be added, in passing, that too great a flow, under pressure is perhaps as dangerous, if not more so, than none at all. All amalgams are hard enough on setting to withstand a Brinnell hardness test of between 30 and 70 pounds, which is ample for our needs. The tensil strength has not been specified, although many tests have been made on the tensil strength of different amalgams, we need not be too much concerned over this property. High tensil strength amalgams have good edge strength and a tendency toward less brittleness, which is a very desirable property. We are doing quite well with what we have. Eventually is another question. We now have the toughness, hardness and strength quite well taken care of and we have left the most important property of amalgam to be discussed last, namely, volume change.

### Volume Change

Volume or dimensional change, during setting, has been a question often in dispute. It has long been known that amalgams expand and contract during the setting period and even after the supposed final set has taken place. It was from studies of volume change that Black evolved the balanced alloy. He found that too much silver caused excessive expansion (as in the early days when nothing but silver was used, the patient, after the set, was unable to close the mouth due to the tremendous expansion), too much tin caused excessive contraction. Volume changes have since been studied continuously by different men. Many formulae have been concocted within the limits as set forth in the specifications of the A.D.A. We have not quite finished the journey as yet, but we will. Concerning the importance of volume change during setting, Dr. Gray states that, "The dimensional changes that occur during the hardening of dental amalgams are of such importance in connection with the

tooth restoring properties of this valuable filling material, that, determinations of these changes are always made in tests of amalgam alloys. A contracting amalgam may shrink sufficiently to admit bacteria and oral fluids between the filling and cavity walls, whereas an expanding amalgam may swell sufficiently to extend beyond the cavity walls, cause the tooth to ache or even split it. The ideal amalgam expands just enough, to make sure that the properly inserted filling will remain firmly in contact with the cavity walls. Dr. Gray also found that the typical changes are characterized by four consecutive steps. (1) a rapid contraction to a minimum, the time consumed in this change being less than an hour, (2) a somewhat slower expansion to a maximum, usually requiring from 1 to 36 hours, (3) a considerably slower contraction to a second minimum, requiring several months in some instances and (4) a very much slower expansion to a second maximum.

It was for a more practical knowledge of volume change, that, about four years ago, a series of experiments were started. I shall not burden you with a description of all of the experiments or the methods used, but the information arrived at proved some of the points just mentioned along with others, as has Hollenback in his extensive research together with other workers.

### Operator's Part

So far we have considered the materials with which we are working from a physical and the manufacturer's standpoint. What part does the operator play in this picture? We are convinced that he can produce a four star picture if he will spend only a little more effort and think of amalgam as a tooth restoring medium rather than just silver. The success of the final restoration depends upon the simple successive steps which he has under his control. If any of the other filling materials were handled as badly as amalgam has been, we would probably have no better results and would be condemning the gold foil and the gold inlay to perdition. The operator has the most important steps of all under his control and upon the way these steps are handled will rest success or failure and in the long run react upon the profession as a whole. In the past too much attention has been paid to the brand on the package and too little to the simple successive steps in manipulation so necessary for desirable results. The best alloy manufactured, that is made into amalgam can be ruined by careless manipulation.

It is, indeed, a sorry fact that so little attention has been paid in dental literature and even dental textbooks to the physical properties of amalgam over which the operator has control. Much space is devoted to complicated chemical combinations of alloys and the addition of mercury. When all of the instructions have been followed out the result is far from satisfactory. One test even goes so far as to say that; "Shrinkage and expansion of amalgam used is not under the control of manipulation by the operator." The author must have picked that out of a book of the vintage of 1850.

It is true that a contracting alloy cannot be made to expand by any modification in its use. It is also true that any expanding alloy can be easily manipulated in such a manner that it will show either its maximum expansion or a very serious contraction. Continuing with truths, a high grade alloy, with proper manipulation will give results, make no mistake.

May I cite, at this time, just a few of the procedures in the manipulation over which the operator does have control. He, the operator, controls the alloy-mercury ratio, the method and time of

mixing, the method and time of insertion into the cavity and the final finish. Each has its important place in the picture and must be carried out for the most satisfactory results.

I have only one quarrel with the manufacturers of amalgam alloys. Their products are good and will be made better as methods of more highly refining the elements that go into their makeup are found. Amalgam alloys are manufactured in quite large quantities at a time. Each batch has its own peculiar properties, so far as working qualities are concerned. The manufacturer should make all tests of each batch of alloy manufactured and place upon the package explicit directions concerning the physical properties of each batch. Some directions are being given but they are not complete enough. I feel quite sure that the situation will be remedied in the very near future through popular demand of the members of our profession, who are slowly coming to realize the importance of amalgam in their daily practice.

In conclusion may I again say that good and serviceable restorations can be made with amalgam under proper manipulation. We should select and use only high grade alloys and have an understanding of the physical properties of the material with which we are working. The use of a good alloy, however, does not guarantee a good amalgam restoration. It is indeed interesting to speculate upon the good that might have been done with amalgam, had it been used intelligently and understandingly through the past years.

We, as a profession, are not infallible. Try as we may, some of our work is bound to fail, through no cause of our own, but the failures are far too many. It is true that to carry out the technique of the manipulation of amalgam, as shall be explained later, will require a little more work, but only in so doing will we live up to everything that our profession stands for, and give to the patient that which he can justly expect.

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*Artificial eyes and legs are examples of prosthesis, and it may be inferred that I put on a plane with them the bridges and dentures in which dentists take such pride. Whether this is or is not true depends not on the bridge or denture itself but on the conception of the dentist who constructed it. Often the dental prosthesis is constructed without any conception of the physiology of the teeth and in such cases it descends to the level of the glass eye, satisfying, after a fashion, the aesthetic demands of the case, but serving no other useful purpose. In fact, such pieces frequently are of a lower order than the glass eye or artificial limb, in that they cause irritation and disease. On the other hand, the dental prosthesis, if properly conceived, will not only* not *cause irritation but may be a means of assisting in the recovery of the mouth from a condition of disease. It then becomes one of the agencies that may be invoked by the dentist in practising the healing art.—Paul R. Stillman, Longwood, Florida.*

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*"A watch is something which if you look at long enough it will be too late to do what you were going to do before you looked at it."*

# *Techniques for the Destruction of a Dental Practice**

by EDWARD J. RYAN, B.S., D.D.S., Evanston, Illinois.

THERE has been so much said of more or less practicability about how to build a dental practice, it may be of interest to suggest some techniques for the destruction of a dental practice. One such technique that comes to mind at once is the boastfulness of dentists when they speak of *new* patients and *my* patients as if they were chattels that they owned without possibility of loss. What is there about dentists that makes them crow every time they have acquired a new and affluent or influential patient, and what is there about us that makes us reluctant to admit that people do sometimes actually leave our practices? I would like to be bold enough to suggest that people do actually sometimes leave us because of inadequacies or inefficiencies in ourselves, but all of us hate to admit our own shortcomings. We particularly dislike to think that people leave us because of annoying personal habits or mannerisms but people do sometimes leave practices, usually because they are dissatisfied with the dentist as a person rather than the dentist as a professional personality.

Dandruff and dirty finger-nails have lost more patients than poorly-fitting inlays and open contacts. Humming at work or looking out the window while a patient recounts his woes has lost many more patients than warped diagnoses. Then, there are those unmentionable, personal things, known euphemistically as hircismus (odour of armpits) and halitosis (technically, buccal cacosmia) which have loomed large in the destruction of dental practices. Wrinkled, stained dental gowns or shirt-sleeve operating, careless dressing and down-at-the-heels-and-bearded looks have likewise been known to send patients in the opposite direction.

Draperies that cry for a dry cleaning and walls that would thank someone for a coat of paint are similarly helpful in the destruction of a practice, and added to these may be airless rooms, heavy with pungent tobacco. Long-winded telephone conversations, cigarette fingers, dirty spectacles—these have driven more people to other dentists than failures to reproduce the marginal ridges in restorations.

Remember that this is a technique for the destruction of a practice; therefore, pay no attention to the necessity of identifying people, of remembering them, and their problems. Yes, fail to do this and you will not need to wonder why your practice fails. There is scarcely another professional service in which the contact between people is as close and as prolonged as it is in the dental experience. The contact that the physician has with his patient or the lawyer with his client is usually shorter and not so physically intimate as that of the dentist and his patient. When we lean over a patient for sixty-minute sittings, perhaps twice a week for several weeks, when this is done to perform a service that is not pleasurable at best—then be sure to have taken no precautions against body odours, fail to be utterly gentle in treatment, be careless of leaking nostrils

*Read before the Western Canada Dental Society in Winnipeg, May 30, 1939.

with a bead always at the point of suspension — present this slovenly picture and this practice of yours will receive a dangerous challenge.

These people who come to us, usually in fear and trembling, expect us to know them by name, to identify them with their dental problem and often with their other conflicts. Disappoint them. Say, "Let me see. . . You are Mrs. Smith's sister-in-law, aren't you?" Don't say, "Good morning, Mrs. Jones." Ask the patient, "What was I going to do for you today?" or "Or, do you remember what tooth we were going to fill?" "Were you going to have a pattern made for an inlay, today?" You might inspire too much confidence if you had your patient's record before you; her x-rays ready in the illuminator; the materials for today's operation at hand; if you remembered what her current illness or interest was and inquired about it. That is essentially a business-like beginning with which to establish a successful patient-dentist relationship; that is not the way to destroy a dental practice. Painstaking examination and history-taking; careful record-making; a straightforward presentation of the diagnosis and prognosis to the patient; a written record of everything connected with the case to remind the dentist at some distant date of a detail that meant so much to the patient at the moment that the disturbance occurred—such practice habits, I say, will let you in for stability and long-term patients. Don't cultivate such habits if you wish to keep up the flow of patients away from your address. What is just another extraction or another restoration or just another denture to you is often a catastrophic event to the patient and the transition from a natural dentition to an artificial one is a psychologic trauma of the first magnitude. Don't bother to carry patients over these psychologic humps in the road as well as the physical bumps. Yes, don't bother about them, and your patients won't bother about you either.

### Punctuality

Next in importance to not being able to identify people by name and associate the name with the condition is to be inconsiderate of the time of patients and their troubles. Many dentists are extremely demanding that patients keep their appointments punctually, but they facilitate their process of the destruction of their practices by being remiss in keeping their part of the appointment punctually. Take advantage of the fact that no one likes to be kept waiting even for a dental appointment and let your patients wait long in the reception room. You may be very sure that this will be interpreted as a mark of disrespect and lack of interest. Fail to recognize that the time of the patient is just as important to him as the operating time is to you. If a patient asks and expects to be dismissed from an appointment at a given time, don't make it your responsibility to meet that request as promptly as you can. Don't remember that people have preferences for appointments; that some like to come in the morning; and others like to come in the afternoon—that would be a consideration that people might appreciate, if you asked when they prefer to come. Such inquiry personalizes your interest. Personalization by name, by dental condition, and by habits and preferences regarding time may keep your patients hanging around longer than the destruction of your practice will permit.

### Interest in Patients

We all listen in the course of a year to many extraneous woes and troubles, entirely unrelated to the dental experience. We are not hesitant to pass opinions on subjects outside the field of dental interest, though we should be.

We forget that it costs us nothing to lend an attentive ear. Don't bother to develop this asset of being considerate and understanding because people are likely to be attracted to you if you possess understanding qualities. It is frightfully annoying to stand through many of these extraneous woeful tales. Don't bother to mask your annoyances. Show your irritation, your lack of sympathy; be obvious—you will never see that patient again.

Here are some other suggestions for the destruction of a dental practice: Recently I heard a woman say that she left a dentist because, as she said, "I can't stand his success story." She meant that she grew weary of hearing his boastfulness about his dental and other prowesses. Another woman left a dentist because he was too lugubrious. Every time she stepped into his dental operating room, not only was she impressed with the impending dental doom but she absorbed the gloom with which this dentist viewed life in general. A man left his former dentist because he personalized antagonistically in all discussions about politics and religion, and whenever the occasion presented itself, the dentist spoke ill of his colleagues, making pointed, fault-finding comments about the dentistry which had been done, in the patient's mouth, by another dentist.

Take long-time patients for granted. Take advantage of their loyalty and tolerance through the years. Let strong personal attachments developed through the years intrude on the operation at hand. Yield to the temptation to visit long and operate hurriedly when meeting old friends. Don't discipline yourselves not to talk of social things while attempting a difficult dental operation and to save a few moments at the end of an appointment when you can lay down your instruments to have a chat with the patient before dismissing him. To spend a moment in greeting and visiting before operating is begun, sticking to the job while operating, and dismissing the patient after another short visit—such a procedure might make everyone too pleased with the transaction. You would be making too much of a productive effort and the patient would have courtesy along with a service. That won't do, if you are to make short work of destroying a dental practice.

### Rules For Destruction of Practice

Briefly, here are some rules for conduct in the destruction of a dental practice:

1. Make a price and then come down on it.

2. Set your own evaluation on a patient's teeth and mouth. Suggest amalgam to a housemaid and inlays to her employer, although the housemaid may set greater value on her teeth than her employer does on her jewels. Do not tell her what the alternatives in treatment are; keep them a secret.

3. Send your patients elsewhere for x-rays. If you have an x-ray machine, keep it for a dust collector.

4. Perpetuate your patients' misconceptions. Don't bother to inform them about fundamental truths. Let the educating go to the man who wants a busy practice.

5. Buy an automobile instead of hiring a dental assistant whom you can't afford. Do your own dental-office housecleaning, telephoning, filing, letter-writing, recalls; do this, and never know where anything is and when anything is to occur.

6. Don't bother to go through the motions of a busy practice. Suppose you are seen lounging in corridors, poker-playing, cigar-biting, and welcoming any other idler with whom to gab as an intrusion on your ennui. Don't utilize your

leisure any way that may sometime force a busier practice on you.

7. Don't ever be found on the receiving end of a dental bur. Be the example of neglect by being seen with cracking, creaking, whistling full dentures, with frank clinical caries in anterior teeth, with deposits and stains on all the teeth, with apparent gingivitis. Follow the example of the shoemakers' children, and let your family go without dental care.

8. Stem the source of future patients by turning away child patients. Don't bother with the little nuisances.

9. If you do bother to tell a dental story, do so in confusing jargon which will convey exactly nothing and kill a little time.

10. Cry about never getting the breaks and other dentists having all the luck now that you have made the most of every opportunity that will further the destruction of your dental practice.

## Choice of Words

Perhaps we have had enough of this destruction of the dental practice for the time being, and it may be of interest to pick up the suggestion about confusing jargon a bit more constructively and in detail. Mr. Stuart Chase has attempted to popularize the subject of semantics which is the study of the meaning of words. Words by their nature have connotations frequently different from the intent in which they are used. The jargon of dentistry is such that words themselves have allusions that are not particularly helpful in presenting the dental story. It may sound rather absurd to suggest that the choice of words may be an important factor in the destruction of a dental practice, but when we realize that words are only tools for expressing thoughts, we are, in verbal society, entirely dependent upon words. Often the meaning is entirely different in the minds of the hearer from that which was intended by the speaker. Certain jargon in dentistry, if we stop to analyse, is frankly humorous. To use such expressions as *artificial, false, synthetic, leak, dummy,* which certainly have meanings in the ears of the hearer quite different from what we intend, is not to promote a helpful understanding of our services. The words, *synthetic, artificial,* and *false,* for example, certainly suggest things that are not genuine. When we say a *synthetic filling* or *false teeth,* we are not intending to convey the impression of something that is spurious but the patient thinks of these words in terms of their common and usual meaning and not in the particular sense that we intend them. The word *dummy* is another example. If used to describe a bridge and we say that we are *going to place a dummy,* the patient quite properly has an associated idea of a scarecrow or possibly Charlie McCarthy or the dunce in the class. We also speak of *anaesthesia* as *freezing the gums* or *pricking with a needle,* neither of which expressions suggests in the minds of the patients an anaesthetic that requires skill to administer. Added to this jargon of anaesthetic terms is the "whiff of gas" which can hardly be called an elevating allusion.

Dentists also speak of simple extractions. I think it well to characterize extractions as *simple* only after they have been performed.

The words *fixed, temporary,* and *permanent* are particularly difficult, because nothing we do in the way of dental restoration is actually permanent and it certainly is not fixed. It is well to speak of dentures as transitional, to say that they satisfy the requirements at one period in time and that that time may be short or long but the factor of control is not within the province of the dentist. There is nothing permanent in a denture any more than there is in the per-

manence of a permanent wave: when the hair grows the wave disappears; as the ridges change so does the fit of the denture.

*Fixed* always denotes something that is rigidly fastened. Anything that is constructed on teeth which are in themselves movable in function cannot accurately be called fixed, although this word is probably one of the least objectionable on the list. I am always amused to hear prosthodontists speak of *building* a denture or *delivering* a denture, because I see visions of blue prints, concrete mixing machines and delivery vans; or, if one is biologic in his thinking, *delivering* a denture might suggest the accoucher's table and a squalling newborn thing.

Dentists also speak of *leaking fillings* which always suggests some disturbance in the plumbing or the continuity of a roof. The word *drift* to describe movement in teeth hints of something that might be blown about like the snow or of wayward living.

Naturally it doesn't do to be too pedantic or sophistical about these words and we could go on and on and analyse the allusions that they suggest and find that what we need is an entirely new terminology. The point of this digression is to suggest that words have meaning, often entirely dissociated with the conditions under which we use them and it is well to keep the awareness of this difference in mind when presenting the dental service—unless, indeed, you are after the destruction of a practice and wish to promote utter confusion. Words are the only symbols of communication between minds that people have with which to understand. In the presentation of dentistry we should choose the words as carefully as we can, so that the right connotations are made. If we place the dental service on a biologic health basis the patient is going to accept it as that; if, on the other hand, we present dentistry as merely some mechanical thing that has no relationship to life and living tissue, people are going to make that evaluation of the service.

It would be well to examine the attitudes of patients themselves with respect to the dental experience in order to establish a basis of beginning in point of origin in presenting dental services. Before we can start any educational effort, it is necessary to know at what level to begin and the first thing we should attempt to determine is what do people know about dentistry. What does the average person know about the dental experience? To find out, we asked 1200 people!

## What 1200 Patients Know About Dentistry

A questionnaire study was conducted among patients in thirty-seven typical dental practices. Twelve hundred persons responded to twelve simple dental questions. Their replies form the basis of the interpretation to be given here. In this study an attempt was made to discover what the average patient knew about dentistry. We wanted to examine a cross section of the attitudes of the American public with respect to the dental experience. We hoped from this study to be able to answer, in part at least, the question that you and I frequently ask when we are in a constructive attitude toward our practices: "What do my patients know about dentistry?"

Twelve hundred adults answered this inquiry. They were distributed among the practices of thirty-seven dentists practising in hamlets, small cities, and metropolitan centres. Every type of practice was represented, from those comprised of public relief clients to those of exclusive clientele. The study was not confined to any single geographic area, but was distributed among practices as widely

separated as Holyoke, Massachusetts and San Francisco, California; from Fargo, North Dakota, to Wisner, Louisiana.

The co-operating dentists did not select the persons to answer the questionnaire, but presented it to the first fifty adult patients to come to each of their offices after the study was begun. The patient, without prompting by the dentist or his assistant, answered the twelve questions, placed the questionnaire in an addressed, stamped envelope, and mailed it to me. The co-operating dentists did not see the answers made by their patients.

We believe that a detailed study of the attitudes toward dentistry as expressed by 1200 dental patients represents a fair sample and an adequate cross section of opinion. It should be emphasized that the replies were made by dental patients whose knowledge of dentistry may be assumed to be better than that of the nonconsumer of dental service. The facts are presented as revealed in the questionnaires, and the interpretations are based on these facts.

In undertaking this study, we did not set out to prove or disprove anything. We had no preconception to be bolstered nor any prejudice to be dispelled. The report represents an exploration among the beliefs of the American dental public at the present levels of culture. It is not scientific in the sense that it might prove or disprove an hypothesis, although the study and the tabulations were made with exacting care. It is not a presentation of major sociologic implications, although it expresses the mass opinions of groups of people on an important social subject.

What were the questions asked and what were the replies? The twelve simple questions were the following:

1. What do you think causes a toothache?
2. Of what use is an x-ray of the teeth?
3. What do you think causes tooth decay?
4. Would you like an injection of a local anaesthetic while having a tooth drilled?
5. What is your understanding about pyorrhea; in other words, what do you think it is?
6. How long do you expect dental work that has been done (fillings, bridges, for instance) to last?
7. What relation do the teeth have to general health?
8. Do you think of an extraction of a tooth in the same way as you do of an operation?
9. What do you expect a tooth paste or tooth powder to do for you?
10. Do you think it is necessary to fill cavities in the "first" ("baby" or "temporary") teeth?
11. Are crooked teeth and poorly developed jaws in children something that they "outgrow"? What are your opinions?
12. What do you think brings about the need for artificial teeth? Do you think is it "just one of those things" that comes with advanced age?

The following is a summary of the conclusions arrived at from a careful analysis of the answers received from this questionnaire.

### Summary

1. Patients seem to be less susceptible to advertising than is generally supposed. Apparently when there is a conflict between the information of advertising copy and that expressed by the dentist the patient finds himself on the side of his dentist.

2. Patients seem ready and eager to obtain their information from their dentists. Their lack of information seems to indicate that dentists are often remiss in their duty as informer to the patient. Their misinformation may be due to other influences, such as advertising; or, to misconstruing what their dentists have said. The place to educate the patient seems obviously to be in the dental office, fitting the story to the dental needs and the mentality of the patient. The function of dental patient education is first to inform people correctly according to their degree of our knowledge, and second, to correct their misinformation. The story can best be told to individual persons in the dental office rather than to the public en masse.

Popular usage has given and dentists have accepted the title of doctor. The word doctor means teacher. If we accept the title we should be ready to accept the responsibility to teach what goes with the title. I believe that dental colleges and dental societies have been grievously remiss in not giving attention in their curricula and programs to educating dentists in the ways and means of teaching their patients.

3. Patients generally recognize toothache as the result of their own neglect. That dental disease is not self-correcting and must be arrested by the dentist's intervention should be more strongly emphasized to patients.

4. The complexity of dental caries should be emphasized to patients who seem to attribute too much to dietetics. Patients seem to have an exaggerated conception of the place of diet in dental caries. The dentist's place cannot be taken by a bottle on the shelf or a package in the pantry.

5. Patients seem ready to rely on the judgment of the dentists they visit. It is for the dentists to make frank suggestions as to procedure; such as, the advisability of having "x-rays" taken or the advisability of an anaesthesia or hospitalization.

6. The implied guarantees of permanence and longevity should be discouraged. Patients should understand that restorations are subject to the same laws of mechanics and dynamics as are all material objects. There can be no such thing as permanence in living, moving vital tissue.

7. The public seems ready to accept the health story of dentistry. It is up to the dentist to tell it.

8. If dental extraction is to be done under accepted surgical conditions, precautions are in order and the public should be taught the value and importance and seriousness of such procedures. The attitude of the public toward operations on dental tissues represents a case of under-emphasis on the part of the profession.

9. The patient and the dentist classify a dentifrice where it rightly belongs as an auxiliary to oral hygiene. Both the Council on Dental Therapeutics and the dentifrice manufacturers would do well to follow this lead.

10. Belief in the care of the deciduous dentition was generally expressed. It is for the dentist to encourage his patients to put this belief into practice.

11. The advisability of orthodontia is generally accepted. Cost seems to be the chief deterrent.

12. Finally, people see that so far as dental disease is concerned, they cannot escape from paying the price for their neglect. Fear of pain and of cost engenders this neglect. To conquer their fear of pain and of cost we offer early dental care. Neglect carries with it unfailing pain and expense. I can think of no better motive for any dental health educational effort than this: "Dental Neglect Costs More Than Treatment: in Pain, in Time, and in Money."

# Practice Management

## A Professional Career

IN BECOMING a professional man, there are two all-important factors which must be kept in mind. These are (1) to establish professional standing and (2) to establish personal security.

1. To Establish Professional Standing:

a. *Maintain your skill and knowledge*—be your own most severe critic and attempt to do the best work possible.

b. *Join dental organizations*—and offer your help in their work; helpers are always welcome in any organization, such as:

i. city, county, state, national dental society;

ii. faculty of your own college or some other school;

iii. health organization, child welfare organization, P. T. society or other philanthropic society.

c. *Select one phase of dentistry as a hobby*—hence become expert in one field. With the knowledge gained thereby you can

d. *Give clinics and papers at dental meetings*—and become known in your locality. With added experience you are ready to

e. *Write papers for publications*—and become known nationally.

f. *Attend alumni meetings and dental meetings*—and thereby keep abreast of the times by absorbing the latest developments.

g. *Travel*—go to dental congresses, visit museums, expositions, universities. When in foreign countries call on colleges and dentists there.

2. To Establish Personal Security:

a. *Maintain your health*—budget your time for work, and take time off each week for some outdoor activity. Do not spend every evening in your office.

b. *Save money*—guard your spending and do not live above your income. Keep a budget.

c. *Invest in sound enterprises*—avoid risk and speculation. As a professional man you are notoriously the target of salesmen offering you stock in "put-in mines" but seldom take-out mines.

d. *Be careful in deportment*—select your friends carefully and seek acquaintance with worth-while people.

e. *Read and study*

i. Professional literature—open at least the wrappers of your dental periodicals, and glance through their pages. Start reading and soon you will be interested.

ii. Cultural literature—follow the trend of social, economic and political movements by reading (from cover to cover) magazines such as *Time*. Do not neglect fine literature, but read good novels, short stories, and magazines such as *Atlantic Monthly*.

f. *Amuse yourself*—acquire a taste for good plays, movies and concerts. Operas and symphonies grow in beauty with each additional performance you attend.

# Problems in Practice

Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

**PROBLEM FROM PRINCE EDWARD ISLAND:**

I would appreciate an expression of opinion from some of your contributors on the use of Evipan Sodium in dental practice.

It has been used here by medical men with great success.

Since it has now passed successfully the experimental stage why could not dentists administer it themselves as a substitute for Nitrous Oxide and Oxygen when a gas-oxygen apparatus is not available?—*James D. Reddin, D.D.S., Mt. Stewart Jct.*

**REPLY FROM U.S.A.:**

Evipan sodium or pentothal sodium is a useful agent for inducing general anaesthesia in dental cases, especially if gas-oxygen apparatus is not available. By the use of preliminary medication, the dose of the anaesthetic may be greatly reduced as compared with cases wherein preliminary medication is not used. One must be careful to see that the patient's throat is kept clear, as anything that finds its way into the throat tends to produce spasm of the larynx. Pentothal sodium is better for shorter than for longer operations, except in cases wherein the patient has been hospitalized and an experienced person is available for the administration of the anaesthetic.—*John S. Lundy, M.D., Section of Anaesthesia, The Mayo Clinic, Rochester, Minnesota.*

**REPLY FROM QUEBEC:**

Intravenous anaesthesia should enjoy a wider use among dentists, particularly by rural practitioners.

While intravenous anaesthesia has some unfavourable points such as the fact that it is a respiratory depressant and there is a lack of perfect control of duration, this is offset by the following favourable points:— Ease of administration; Simplicity of equipment; Complete relaxation of the muscles; Marked absence of after effects; Deep anaesthesia is quickly obtained. There is a rapid return to normal in most cases. Apparently there is no apprehensiveness on the part of the patient. It is exceptionally economical.

This problem is discussed in my paper which appeared in the Journal of the Canadian Dental Association, January 1939, also in the Dental Cosmos, September 1934, also on page 145 of Current Researches on Anaesthesia and *Analgesia,* (*May-June,* 1939).—*F. W. Saunders, D.D.S., Montreal.*

**REPLY FROM ONTARIO:**

On receipt of your letter I called one of the outstanding anaesthetists of Canada and asked him why dentists should not use Evipan Sodium. The first reason given was that it is an intravenous administration, and that type of anaesthetic is extremely dangerous and carries a high percentage of risk. Further, it is seldom used by medical men, and perhaps should

be used more frequently. In this country the intravenous administration of an anaesthetic has never been popular, because when once given there is no way of withdrawing it, and the patient could die with no hope of treatment. Second, it must be given in hospitals as the patient is sound asleep, and he should remain in the hospital for twenty-four hours. Third, intravenous anaesthetics of various types may be the anaesthesia of the future, but they have been introduced frequently in a number of cities and reported as successful, and have then disappeared completely or almost so from the literature, perhaps to be revived in the next decade.

This opinion is not only given by Doctor Ralph Hargrave, of Toronto, Anaesthetist, but is my own; and under no circumstances should the dental practitioner use intravenous injections, and seldom will the medical men give them. —*Fulton Risdon, M.D., Toronto.*

**REPLY FROM ONTARIO:**

Undoubtedly Evipan Sodium could be used in dental surgery but, like any other general anaesthetic, it should only be administered by those who have had sufficient experience under qualified instructors. It is not practical for dentists to obtain this requisite training. A dentist who has not access to nitrous oxide-oxygen anaesthesia might call in a physician to administer the Evipan Sodium. Both because of precedent and training I would consider it preferable that the physician should give the anaesthetic.—*James Coupland, D.D.S., Ottawa.*

**REPLY FROM MANITOBA:**

Evipan sodium is not nearly as safe an anaesthetic as nitrous-oxide oxygen, or ether. It should be given in a hospital with an empty stomach and preferably with a hypodermic of morphine and scopolamine given one hour previous to the extraction. The danger of food inhalation with a full stomach is greater with evipan sodium than with the two previously mentioned anaesthetics.

It requires a steady hand to keep the intravenous needle within the lumen of the vein during evipan sodium anaesthesia. True, small tissue infiltrations do not appear to cause much bother but I have seen one nasty slough following evipan infiltration.

It requires an experienced administrator's constant attention to keep the patient upon an even anaesthetic keel. During the extraction of difficult lower teeth the dentist tends to encroach upon the patient's airway. You do well if you can give fractional doses of evipan while keeping the lower jaw up with a husky dentist bearing down.

Evipan sodium is irreversible. Once the drug is within the vein you cannot get it back. With a possible overdose of nitrous oxide or ether a few breaths of fresh air and the patient has returned to safety. An overdose of evipan is a serious condition. In brief:—

Evipan sodium is not a drug for office use.

In a hospital with a patient prepared for general anaesthesia, and with someone familiar with its use, evipan sodium is a useful anaesthetic.

Under no circumstances in an office or private home, should one inject evipan sodium intravenously, then rush around and extract teeth. It has been done but it is a dangerous procedure.

Ether may leave a headache but to date it is the safest drug we possess for use in making a patient lose consciousness. —*D. C. Aikenhead, M.D., Winnipeg.*

**REPLY FROM BRITISH COLUMBIA:**

I consider Evipal or Evipan one of the finest anaesthetics we have for dentistry under certain conditions.

First, it is essentially an anaesthetic that should only be used for a patient who is hospitalized.

Second, it should only be administered by an expert anaesthetist.

Third, the time limit should be considered and the suitability of the patient for an inhalant anaesthetic, to follow the administration of evipal, if the work can not be completed during the available time.

In the opinion of the staff in our office we do not consider it an anaesthetic to be used in office practice.—*Archie L. Johnson, D.D.S., Vancouver.*

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## *Montreal Dental Club Fall Clinic*

Arrangements have been made to provide a complete record of the proceedings of the Fifteenth Annual Fall Clinic, held in Montreal last September. These reprints will be ready for distribution by December 1 and must be ordered and paid for before this date as extra copies will not be available later. Order from Dr. R. B. Bell, 1224 St. Catherine Street West, Montreal. Price $2.00.

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## *Conventions*

GREATER NEW YORK DENTAL MEETING, HOTEL PENNSYLVANIA, NEW YORK CITY, DECEMBER 4-8, 1939.

MIDWINTER MEETING OF THE CHICAGO DENTAL SOCIETY, HOTEL STEVENS, CHICAGO, ILLINOIS, FEBRUARY 12-15, 1940.

MINNESOTA DENTAL ASSOCIATION, ST. PAUL, MINNESOTA, FEBRUARY 27-29, 1940.

THE NATIONAL DENTAL CENTENARY CELEBRATION, BALTIMORE, MD., MARCH 18-20, 1940.

AMERICAN ACADEMY OF PERIODONTOLOGY, CLEVELAND, OHIO, SEPTEMBER 5-7, 1940.

AMERICAN DENTAL ASSOCIATION, CLEVELAND, OHIO, SEPTEMBER 9-13, 1940

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*A small blot of ink on a sheet of notepaper at once attracts attention. The fact that the remainder of the sheet is immaculate is overlooked: all that is seen is the blot. In our everyday life a similar sort of valuation goes on. A lawyer embezzles a cool ten thousand. In popular estimation the honest ones are left out of account and the whole legal profession is condemned. Again, it happens that the postman is an hour late. There follows a grumble. He has been "on time" 312 times out of 313. Not a word of praise!*

*Surely we mortals are a graceless and thankless lot. We always see the blots and never the clean paper: we rarely count our blessings but keep an accurate record of our misfortunes. We see one another's faults and overlook the virtues.—Canon Longley in the "Eastern Daily Press," England.*

# The Forum

## • CALCIFICATION AND DECALCIFICATION OF THE HUMAN TEETH

by RUDOLF KRONFELD, M.D., D.D.S.
Professor of Special Histopathology, Director of Department of Research, Chicago College of Dental Surgery and Dental Department of Loyola Institute, Chicago, Illinois.

(*Condensed from The New York Jour. of D., June, 1939.*)

THE deciduous teeth begin to calcify between the ages of four and six months in utero and enamel formation is completed during the first year of postnatal life. The most important question in this connection is: How much enamel of a deciduous tooth is formed prenatally and how much postnatally? This question can be answered by locating in sections through deciduous teeth the neonatal ring which separates prenatal and postnatal structure.

Recently statements have appeared in the literature to the effect that the enamel of the deciduous teeth is formed in utero or that the crowns of the deciduous teeth are fully formed at birth, and important practical conclusions concerning hypoplasia and caries of the deciduous teeth have been drawn from these statements. Such statements are based upon a disregard of the anatomic facts. Both caries and hypoplasia are conditions primarily affecting the enamel *surface*. It is therefore important to ascertain exactly when the surface of the crowns of the deciduous teeth is formed.

In the deciduous molars and cuspids the enamel surface consists entirely of postnatal enamel. Irregularities of the enamel surface, hypocalcification, early caries, and discolourations are therefore situated entirely on or in postnatal enamel. Only the inner portions of the enamel, which are not normally exposed in the oral cavity, are prenatal.

In the deciduous incisors three-fifths to five-sixths of the enamel is formed at birth. But, again, it should be emphasized that for the most part this prenatal enamel forms the deeper layers next to the dentine, and that the gingival one-half of the enamel surface consists of postnatal enamel. The importance of this fact will be pointed out in the next few paragraphs.

Kronfeld and Schour have found that, as a rule, the prenatal portion of the deciduous teeth is well formed and well calcified, whereas the postnatally formed tooth structures frequently show disturbances of formation and calcification, varying from slight hypocalcification to severe hypoplasia. To the author's knowledge, true prenatal dental hypoplasia has never been observed in the teeth of European or North American infants or children. The following statement from the article by Kronfeld and Schour summarizes the present knowledge on this subject: "In utero calcification normally takes place homogeneously and completely. It is not markedly influenced by fluctuations in the condition of the mother, except perhaps in cases of grave maternal illness or a deficiency, such as osteomalacia. However, after birth, the calcification of the teeth is very much influenced by the state of the infant's health. Beginning with birth and the neonatal period, which leave their mark in every deciduous tooth, there are usually zones of disturbed calcification in the teeth, particularly from birth to ten months of age, which express the vicissitudes of the first few years of life."

It should be emphasized that unless the old, sweeping statement, "the enamel of the deciduous teeth is formed

in utero," is discarded, a correct evaluation of prenatal and postnatal influences is impossible.

The calcification of the permanent dentition begins at birth with the upper and lower first permanent molars. Prenatal calcification of these teeth is known to occur occasionally but is confined to a very small amount of calcification in one or two cusps. Essentially, calcification of the permanent teeth is entirely postnatal.

True decalcification of adult human teeth has thus far never been demonstrated. It has been assumed hypothetically in an attempt to explain certain clinical phenomena, but there is no proof of it whatsoever.

Fish concluded from a number of experiments and observations in the teeth of animals and man that, "It has not been found possible to modify the calcium content of the dentine either by parathyroidectomy, calcium-deficient diet, pregnancy, or feeding on therapeutic or excessive doses of vitamin D; nor did two dogs with extreme natural softening of the bones show any loss of calcium from the dentine. It appears, therefore, that the calcium content of the dentine is extremely stable, that slight physiological additions may be made to it, but that there is no evidence as yet of any definite loss of calcium from the dentine under any circumstances."

The structure and composition of the enamel of the erupted tooth cannot be altered by nutritional means. This does not imply that a nutritionally adequate diet is not of utmost importance during all periods of life; nor does it mean that diet is of no significance in the problem of tooth decay. On the contrary, the only certain way at present by which to influence dental caries is by dietary means (for example, by reduction of carbohydrates). But until and unless new evidence is brought forth, there is no justification for believing that the structure and composition of the enamel of erupted human teeth can be influenced.

The above statements have been especially emphasized because there is still a tendency among dentists, physicians, and laymen to prescribe or use various calcium preparations in the hope of improving the tooth structures and influencing the incidence of dental caries. Such attempts are bound to fail because they are not based on sound biological premises.

## • THE NEED OF AN INFORMED AND UNITED PROFESSION

THE dental profession is at present confronted with many serious problems and responsibilities, some of them new, and threatening its very existence. What it does in the present may determine the kind of profession it will be in the future—whether it shall continue as a health service profession or be broken up into separated and discordant units, educated on varying levels.

The most important factor in the solution of our problems, it seems to me, is an informed and united profession. I use both of these words advisedly. We need to know more about dentistry's social responsibilities and what we should do and are doing to meet them. We need to know more about the objectives and activities of the American Dental Association and what it is doing along many lines to promote the interests of the public and the dental profession. We need, also, a deeper sense of our personal responsibility toward our calling and our duty to it.

We need, too, a united profession. Every member, interested in its welfare, should join with his co-workers in making his influence effective not only in the interest of dentistry, but in the interest

of self. There is no better way in which to do this than by active membership in the American Dental Association. We can hardly hope to make our influence felt as individuals when acting independently.

In the effort that is being made to solve the problems with which we are faced, we need, and should have, the active and sympathetic support of every practising dentist. We need, in a word, to know more about our profession, more about the effort it is making to meet these responsibilities and more about the ways in which we, as individual members of it, can be of service.—*Condensed from article by Arthur H. Merritt, of New York City, President of the American Dental Association, in Jour. A.D.A., October,* 1939.

## • OPERATION ON FRENUM LABIUM

by HARRY E. KELSEY, D.D.S., F.A.C.D., Baltimore, Md.

(*Excerpt from American Journal of Orthodontics and Oral Surgery, February,* 1939)

HAVE the assistant hold the lip upward and draw the frenum taut. It is then grasped by a small surgical forceps just below the point at which I wish to sever the upper portion from the lip. This excision above the forceps, however, is made after the frenum has been dissected out of the gum and from between the alveolar sockets of the central incisors as far down as the lancet will go, first on the right side and then on the left, while the frenum is drawn gently but firmly upward and outward with the forceps. This releases the frenum from between the teeth up to the point of normal attachment, and by stretching the frenum rather firmly and making the oblique incisions as deep as possible, the white fibres in the frenum are severed deeply enough to draw the labial portion out of the suture and permit the shrinkage and contraction of the tissue on the lingual side to draw out the lingual ends of the severed fibres. I have always believed that the fibres were thus eliminated either as a factor to maintain separation or to continue actively to cause it through the activity of the muscles of the lip to which the frenum is attached. I have performed this operation, and at his own wish permitted the patient to go directly from my office to school. The wound is usually quite well healed in two or three days. Most dental oral surgeons place one or two stitches in the inside of the lip where the triangular portion of the frenum is severed from the lip with a small pair of straight scissors. This cutting away of the triangular portion and putting in the stitches (if they are to be employed) is the last step in the operation. When I performed this operation I did not use sutures, merely painting the wound with iodine, a procedure which never results in any complications. Nevertheless, I think one or two small sutures on the inside of the lip is a better surgical procedure. The operation, after the anaesthesia is secured, does not take more than three or four minutes, perhaps a little longer if stitches are put in.

The best time to operate is just after the maxillary deciduous central incisors have been lost and before the permanent ones are erupted enough to be an interference to the operation. Actually, I believe most cases can be diagnosed as normal or abnormal at this time, but I have found the operation quite successful at a later date; and, if one prefers to be ultraconservative, I think there is no great harm in putting it off for a year or two longer, though I believe it is done better at about the time nature is shifting from the deciduous to the permanent teeth. There is also a more open field for operating at this time than after the permanent central incisors have fully erupted.

*At the annual meeting of the "Save the Children" Fund, Sir Francis Fremantle related a charming story about the Queen. Her Majesty, when visiting a London children's hospital, asked one of the small patients where she lived. "Be'ind 'Arrod's, Ma'am," said the child, adding, "And where do you live?" "At the back of Gorringe's," replied the Queen promptly.—The Nursing Times.*

## *Make Way for Even Teeth*

Under the above title a very interesting article on dentistry appeared in the September issue of Parents' Magazine. The following picture taken by Doris Day, of Falls Village, Connecticut, was used to illustrate this article. The Public Relations Bureau of the American Association of Orthodontists expects to distribute 50,000 reprints of this article to parent-teacher associations, nursing associations and all who take leadership in child welfare movements.

*Photo by Doris Day, Courtesy Parents' Magazine*

*Editor* — M. H. GARVIN, Winnipeg

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# The Canadian Dental Corps

by STEPHEN A. MOORE, London, Ontario
*President of the Canadian Dental Association*

The members of the Canadian Dental Association will be pleased to learn that negotiations with the Department of National Defence relative to the reorganization of the dental services in the Defence Forces of Canada have been brought to a successful conclusion and the recommendations, as agreed to by the Military Committee appointed by the Adjutant-General and the Committee representing our Association, have been adopted by the Department of National Defence, after being approved by the Defence Council.

The question of dental services for the Defence Forces in Canada is a national problem and the Canadian Dental Association has always accepted its responsibility in this connection. For some years, our Association has realized that it would be advisable to make certain changes in the establishment and organization of the dental services for the Military Forces, and at a meeting of our Association at Ottawa in September, 1920, the following resolution was discussed, passed and presented to the Government of the Dominion of Canada:

"That in the interests of the public, a Permanent Army Dental Corps as an independent unit, be authorized in Canada for the following reasons:

1. That efficient dental service for the Permanent Forces of Canada, demands such a Corps.
2. That a definite promise was given to the dentists of Canada, by the then Minister of Militia, that such a unit would be established and that failure to establish such a corps would be regarded as a breach of faith.
3. That the establishment of such a unit would insure the co-operation of the best men in the profession.
4. That the important part played by dentistry in the recent war and the efficient services rendered by the Canadian Army Dental Corps, justify the dental profession in making such a request."

At different meetings of our Association in subsequent years, the reorganization of the Dental Corps was discussed but it was most difficult to make definite progress. At the meeting of the Association in Montreal in 1936, I was honoured by being elected to the office of president-elect and, at about the same time, certain rumours were in circulation relative to proposed changes in the organization and establishment of other branches of the Service. I had been keeping in touch with these changes through certain military affiliations and many times discussed the status of the Dental Corps and suggested improvements with different officers who were particularly interested, many with overseas experience and some of whom were members of the dental profession. It seemed to me that the time was particularly opportune for our Association to make representations to the Department of National Defence. It was also my belief that the matter would probably be brought to a decision during my term of office and that our Association should be perfectly familiar with the situation and prepared to make definite recommendations.

Dr. George L. Cameron of Swift Current was President at that time and, in view of his extensive military experience, he was the logical man to act as Chairman of this Committee. In discussing this question with Dr. Cameron, it was decided that the Chairman of the Committee should be located in Ottawa but he graciously offered to act for the time being. After some correspondence, Dr. Ira Hamilton of Ottawa accepted the appointment as Chairman of the Canadian Army Dental Corps Committee.

I cannot speak too highly of the work of Dr. Hamilton on this Committee. He was quite unfamiliar with the duties of the Committee but took the situation in hand and was soon familiar with the different matters pertaining to same, and throughout all the negotiations handled them in an efficient and business-like manner. Representatives were appointed from various provinces and the Committee started to function actively, with the idea in view of making a definite approach to the Government.

Shortly after this, our Committee was approached by Dr. Frank M. Lott,

with the offer of assisting us in any manner possible. Dr. Lott had been and was still working on reports of a proposed plan of reorganization. He had an immense amount of material and was at that time getting it into shape. His offer was accepted and he was appointed Secretary of the Committee. The different reports were prepared by Dr. Lott, submitted to members of the Committee for criticism and, after approval, were then presented to the Government.

At the meeting in Vancouver in July, 1938, Dr. Lott submitted a report on behalf of the Committee. This report was very thoroughly discussed by the Board of Delegates and referred to a special committee, the chairman of which was Dr. George L. Cameron of Swift Current. This committee presented the following resolutions to the Board of Delegates, which were unanimously adopted:

"1. In view of the fact that a complete reorganization of Canadian Defence Forces is almost completed, it seems the logical time to press for a reorganization of the dental services in conformity with present day requirements and standards.
2. We strongly recommend that the Defence Dental Services should be under the Adjutant General's Department, and not under the Director of Medical Services.
3. That the outlined scheme of reorganization as prepared by your committee should be endorsed with a few minor modifications.
4. That the Canadian Dental Association, as officially representing Canadian Dentistry, be allowed to name the Director of Dental Services and other senior officers, on reorganization, and be ready to advise the Minister of National Defence on any matter pertaining to the efficient organization and functioning of the Corps.
5. That this Association at once, through its proper officers, bring these recommendations to the notice of the Honourable Ian McKenzie, Minister of National Defence."

On July 30th, 1938, these resolutions were submitted to the Honourable Ian McKenzie, Minister of National Defence, and on September 14th of the same year, I wrote the Honourable Minister asking for an appointment at which representations might be made regarding the reorganization of the dental services in the Defence Forces. Due to the situation in Europe at that time, an appointment was not secured until November 28th, 1938, but in the meantime certain material had been sent to the Department of National Defence for their consideration. The deputation which interviewed the Honourable Minister and the Adjutant-General consisted of Doctors Ira Hamilton, Ottawa; W. G. Trelford, Toronto; J. F. Blair, London; Frank M. Lott, Toronto; E. T. Bourke, Montreal, and Stephen A. Moore, London, this group being the Executive of the Committee of the Canadian Army Dental Corps.

The Committee was given a most cordial reception by the Honourable

Minister and the different officials at the Department of National Defence. The Honourable Minister subsequently stated that the matter would have the attention of his Department and assured us that in this matter he preferred to negotiate with the Official Organization representing the Profession of Dentistry.

Further meetings and negotiations took place, with Doctors Hamilton, Lott and Moore being present, which resulted in a plan of reorganization being approved by the Military Committee and our own Committee. This organization was on a peace-time basis and it is unfortunate that the reorganized Corps had to immediately meet a national emergency but the members of the Association can rest assured that the situation is well in hand and I am certain that the profession of dentistry will have reason to be proud of the reorganized Canadian Dental Corps.

The Board of Delegates unanimously instructed me to recommend the name of Dr. Frank M. Lott for the position of Chief Dental Officer. This recommendation was presented and the appointment was made by the Department of National Defence. Dr. Lott accepted the appointment and the profession of dentistry may well be proud of the officer in command of the dental services for the Defence Forces. Dr. Lott has a big job and, in accepting it, has made many sacrifices. I bespeak for him your hearty support and full co-operation, particularly during this trying period, and, with this support, we will have a Dental Corps second to none.

Lt.-Col. Lott has, in this Journal, briefly outlined the new plan of organization. We have a distinct and separate unit, immediately responsible to the Director General of Medical Services. Each District has a Deputy District Dental Officer and all Officers, N.C.O.'s and men in that District are responsible to him, who is in turn responsible to the Chief Dental Officer. The organization is on the basis of a Canadian Dental Regiment and the different Districts are component companies of that Regiment. The Corps is being rapidly organized and before this is read may be on a war-time basis.

The officers of your Association have rendered a considerable service to both the profession of dentistry and the Dominion of Canada in bringing this matter to a successful conclusion. The Committee in charge did an immense amount of work and, as in all committees, some members did more than others, but each one most cheerfully performed those duties delegated to him. I am personally grateful to those who so ably assisted in these transactions and express the thanks of our Association to them, as well as to the officers of the Department of National Defence who were so considerate and worked with us so earnestly during these negotiations.

I would draw to the attention of the members of our Association the splendid response on the part of members of the dental profession in Canada, who have so willingly volunteered their services in the national emergency. Many of our members have offered their services in the Dental Corps, while others are officers in combatant units. Our Association is proud

of these members, who, with great personal sacrifice, have unhesitatingly offered their services. Gentlemen, we salute you!

May I express my thanks to the Editor of the Journal for the opportunity of bringing these facts to your attention.

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# *Personnel of Dental Corps*

Dr. Moore has ably outlined the efforts of the Canadian Dental Association in the reorganization of the Army Dental Corps. We now have facilities for the completion of one of the finest dental corps in the world.

With Lt.-Col. Lott as Chief Dental Officer and with the splendid men who have been appointed as Deputy District Dental Officers this Corps should develop into a vital organization which will be the pride of the dental profession of Canada.

One thing is necessary for success and that is for all dentists to give every possible support to our leaders in this field, if our air, naval and land forces are to be efficiently served. Reports received by the writer are to the effect that this fine co-operation is not lacking but that our very best men have offered their services to the Corps whenever they may be required. Thus, the dental profession will render a service, worthy of a great profession, to King and Country in this hour of need.

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## BOOK REVIEWS

**Clinical Pathology and Treatment of the Dental Pulp and Periodontal Tissues,** by Edgar D. Coolidge, B.S., M.S., D.D.S., Professor of Therapeutics, Preventive Dentistry and Oral Hygiene, Chicago College of Dental Surgery, School of Dentistry, Loyola University, Chicago, Illinois; formerly Professor of Materia Medica, Pharmacology and Therapeutics of the School of Dentistry, University of Illinois. Octavo, 461 pages, illustrated with 289 engravings. Published 1939 by Lea and Febiger, 600 S. Washington Square, Philadelphia, Pa. Cloth, $6.50 net.

This book is a study of the changes which occur in the pulp and periodontal tissues in the transition from health to disease. It is intended to assist in the understanding of the biological functions and pathological conditions of the pulp and periodontal tissues. The book covers a wide field including the pathology, diagnosis and treatment of diseases affecting the dental pulp, all phases of root-canal treatment and filling, the principles of mouth hygiene, dental prophylaxis, the treatment of the various types of gingivitis, of traumatic injuries, of pyorrhea, and of many oral conditions associated with systematic disturbances observed in daily practice.

This is a valuable contribution to dental literature by one who has had a wide experience in dental research and as a teacher for more than twenty-five years, during which time he has gained professional recognition both nationally and internationally. When Dr. Coolidge speaks his audience listens with interest and appreciation. This book can be recommended, without hesitation, to the Canadian dental profession.—*M. H. G.*

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**Nitrous Oxide-Oxygen Anaesthesia —** (McKesson - Clement Viewpoint and Technique), by F. W. Clement, M.D., Director of Anaesthesia at Flower Hos-

pital, The State Hospital for the Insane, Lucas County Hospital, Toledo Dental Dispensary; Anaesthetist to Toledo, Mercy and St. Vincent's Hospitals, Toledo, Ohio, etc. Octavo, 274 pages, illustrated with 70 engravings. Published 1939 by Lea and Febiger, 600 S. Washington Square, Philadelphia, Pa. Cloth, $4.00 net.

The author was associated for many years with the late Dr. E. I. McKesson in the field of general anaesthesia and has endeavoured to set down the teachings and findings of Dr. McKesson along with his own impressions and experiences resulting from the use of nitrous oxide-oxygen over a period of many years. The work is divided into six parts as follows: Part one—general considerations, including the theory of nitrous oxide-oxygen anaesthesia, the signs of anaesthesia, premedication and shock: Part two—the administration of nitrous oxide-oxygen: Part three—special technique including endotracheal anaesthesia: Part four—special operations: Part five—nitrous oxide-oxygen for dental anaesthesia and analgesia: Part six—development of the gas apparatus.

As an example of the concise style of the work the following summary given at the end of the chapter on "Signs of Nitrous Oxide-Oxygen Anaesthesia" is reproduced from Page 42:

"Summary.—1. Every true sign of anaesthesia has its physiological explanation.

2. A thorough knowledge of the signs of anaesthesia is imperative.

3. Remember the 3 R's—Reflexes in the light plane, Relaxation in the normal plane, and Rigidity in the deep plane.

4. There is no sharp line of demarcation between the various stages or planes of each stage of anaesthesia. Each stage, or plane, merges gradually into the next.

5. Signs of the deep plane are evidences of oxygen want.

6. An abrupt deprivation of the oxygen supply to the muscular system results in spasticity or rigidity. The strongest muscle of any group determines the direction of movement of that part.

7. Respiration is always the most important sign of anaesthesia.

8. Phonation as a sign of anaesthesia is unreliable.

9. The eye signs may be affected by drugs or disease.

10. Colour is no true guide to the level of anaesthesia. Its presence is not necessarily an indication of danger, nor is its absence any sign of safety.

11. With ether anaesthesia, nausea occurs in the light plane. In contrast, nausea with nitrous oxide-oxygen usually means the deep plane, or oxygen lack.

12. Continuous, uninterrupted respiration of adequate volume is characteristic of the normal or surgical plane of anaesthesia."

The book is well printed and illustrated and is a credit to the author and publishers and should prove of real benefit to anaesthetists and general practitioners who engage in this work.—*Kenneth M. Johnson.*

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**Accepted Dental Remedies** — by the Council on Dental Therapeutics of the American Dental Association. Cloth, 304 pages. Published by the American Dental Association, 312 East Superior Street, Chicago, Illinois, 1939. Price $1.00.

This book lists and describes those pharmaceutical articles which are acceptable to the Council on Dental Therapeutics. Errors which have appeared in previous editions have been corrected and portions of the text have been altered to conform with current scientific developments. The descriptive material on vitamins has been rearranged and amplified. The number of articles listed and described in this volume is considerably larger than that in previous editions.

This book should be in the hands of every dentist and dental student.—*M.H.G.*

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*We act as though comfort and luxury were the chief requirements of life, when all that we need to make us really happy is something to be enthusiastic about.—Charles Kingsley.*

# CORRESPONDENCE

Ottawa, September 27, 1939.

To Dr. Stephen A. Moore:

Your letter of September 20, addressed to the Prime Minister, has been referred to this Bureau.

I have been directed to express to you the appreciation of the Government of Canada of your offer of services to the present emergency.

The generous offer of your Association, as expressed in your letter, has been duly recorded with this Bureau in order that full advantage may be taken of it when a suitable opportunity presents itself.

(*Signed*) J. F. DELANTE,
*Joint Secretary, Voluntary Service Registration Bureau.*

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Ottawa, October 3, 1939.

To Dr. Stephen A. Moore:

Thank you very much for your letter of September 25, written on behalf of the Canadian Dental Association, and conveying to me the Association's best wishes as I take up my new duties as Minister of National Defence.

This message is greatly appreciated, as is also your expression of willingness to continue to give this Department the same loyal co-operation which it has enjoyed in the past. This offer is gratefully received, and I wish to extend to you and through you to the members of your Association, my warmest thanks for it.

(*Signed*) NORMAN L. ROGERS,
*Minister of National Defence.*

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To the Editor, Journal of the C.D.A.:

Thanks for the Editorial comment about the Parents' and You Magazine articles in the last issue of the Journal of the Canadian Dental Association.

I noticed with great interest your contact with the Canadian "National Home Monthly." It parallels our contact with Life Magazine—objections to two series of photographs — a luncheon interview — cordial and sympathetic discussion of the problem from both viewpoints, and eventually the resulting Life dental story. A few months ago we had a "luncheon talk" with a well-known beauty columnist of a New York paper, a column syndicated throughout the U.S.A., and discussed some recommendations recently made which were not, we felt, quite proper. Our point of view was recognized and resulted later in a Sunday column discussing dentistry from the beauty angle, and we feel confident that when dental questions arise advice and information will be sought from the Bureau. Such methods of approach to lay writers we feel to be not only the proper and just approach, but ones which can result in cordial and mutually valuable relations. It has astonished, as well as encouraged, us to note how eager such writers are to co-operate when they realize that instead of censuring them, we rather, not only offer them facilities whereby they can get accurate and unbiased "dental information," but are anxious to help them write good dental stories.

New York, September 23, 1939,

(*Signed*) C. F. MACDONALD,
*Chairman, Great New York Bureau for Dental Information.*

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September 18, 1939.

To Dr. Stephen A. Moore:

The Chairman of the Board asks me to express on his behalf and on behalf of our members, our deep appreciation of the message of condolence received from you in the name of your Association.

The loss we have sustained at this difficult time through the death of Walkinshaw is very great. The personal loss, those of you who remember his cheerful disposition during the Canadian trip, will be able to measure. We are carrying on as well as may be and the Journal will contain from time to time, full details of the work of the Association for the profession in time of war.

All good wishes,

(*Signed*) W. G. SENIOR,
*Dental Secretary of British Dental Association.*

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September 11, 1939

To Dr. Stephen A. Moore:

The President and Committee of the Congress of the Australian Dental Association

wishes to thank the officers and members of the Canadian Dental Association for the cabled greetings and good wishes for a successful Congress. I am glad to report that the meeting proved to be very successful.

We were glad that the Congress was finished before our Empire became involved in this great war.

We extend good wishes to the Canadian Dental Association members and express the sincere hope that our Empire will emerge triumphant from the dark days ahead.

(*Signed*) GEORGE FINLAY,
*Honorary Organizing Secretary of the Congress of the Australian Dental Association.*

# NEWS FROM THE PROVINCES

*BRITISH COLUMBIA:*

### Vancouver Dental Society

The Vancouver Dental Society held its first meeting of the fall session in the beautiful social suite of the New Vancouver Hotel with the largest attendance on record.

Dr. R. L. Pallen, Past President of the Canadian Dental Association, outlined the formation of the Canadian Army Dental Corps and the appointment of Dr. Frank Lott, as head of that body. A general discussion by the members took place. Many interesting facts were stated by members of the old Canadian Army Dental Corps. The feeling of the members present was that the Canadian Dental Association, with the Minister of Defence, took the Canadian Dental Corps out of politics and formed an organization worthy of the dental profession.

We of Vancouver and district, approve of the appointment of Dr. Frank Lott as head of this new organization, and knowing him, we believe that whoever is selected as head of the various districts, will be selected on their merit and not through political pull.

Study clubs were formed in Prosthetics, Ceramics, and Operative Dentistry. The enthusiasm shown points to an outstanding year's activity under the able leadership of Dr. Hugh Munroe, our President.

Dr. William J. Lea was one of the guest speakers at the meeting of officers of component societies of the Southern California State Association held in Los Angeles, California. His subject was, "Dental Practice under the British Columbia Law."

*SASKATCHEWAN:*

### College of Dental Surgeons

The annual election for members of the Council of the College of Dental Surgeons of Saskatchewan resulted in the re-election of the three members whose term of office had just expired. They were Drs. W.W. Irwin, Moose Jaw; E. W. Mounteer, Regina and W. F. Smith, Regina.

The Council held its annual meeting in Regina on October 10, when Dr. W. W. Irwin was elected President, Dr. E. W. Mounteer, Vice-president, and Dr. L. J. D. Fasken, Secretary-registrar. The other members of the Council for the year are Drs. D. J. Brass, Yorkton, W. F. Smith, Regina, and P. W. Winthrope, Saskatoon.

An interesting and unusual event took place at this meeting of the Council. Before the retiring President left the chair he had the privilege of signing the Certificate of Registration in Saskatchewan of his son, Dr. G. A. Brass, a recent graduate of North-Western University Dental School, who is to practise with his father in Yorkton.

### Joint Dental Meeting

On October 10, the members of the Regina Dental Society entertained members of the Moose Jaw Dental Society and the out-of-town members of the Dental Council to a wild duck dinner at the Kitchener Hotel, with the President of the Regina Society, Dr. W. F. Smith, in the chair. Dr. F. G. Garvin, of Canora, Saskatchewan, was the speaker of the evening and gave a very comprehensive and informative address on the subject, "The Port of London." The speaker is a former C.A.D.C. officer who took part in the Vimy Pilgrimage three years ago and revisited London. He obtained much of his material on the spot and spoke fluently and with authority. Dr. R. N. Grant and Dr. J. R. Hoag, who provided the ducks were thanked by both Societies.

*MANITOBA:*

**Winnipeg Dental Society**

With the new president, Dr. C. O. Wood, in the chair, the Winnipeg Dental Society opened its 1939-40 activities with a dinner in the Medical Arts Club Rooms on September 22, followed by the usual business meeting and an interesting, informative address on "Exodontia for the General Practitioner," illustrated by lantern slides, presented by Dr. J. H. Johnson, Associate Professor of Exodontia and Anaesthesia, University of Toronto. After listening to Dr. Johnson one could wish he lived in Winnipeg.

The summer golf competitions of the Society came to a close on September 18 at Elmhurst Golf Club with a banquet and distribution of cups and prizes to the successful contestants. The dinner was attended by about forty and the number taking part in the competitions during the season totalled fifty-three. The list of the successful finalists includes a few new names, but the more experienced competitors whose names have appeared in the past carried off most of the awards. Golfers apparently are made, not born. Keep at it men, you may win yet.

The Ash Cup was won by Dr. P. J. Gallagher; runner-up, Dr. Douglas Brown.

The Temple-Pattison Cup, Dr. T. N. Belden, runner-up Dr. Bert Oja.

The Denco Cup, Dr. J. A. Bleakley; runner-up, Dr. J. O. Brown.

The Harris Cup, Dr. G. A. Buchanan; runner-up, Dr. W. I. Jackson.

In May the winners in the four flights were Drs. B. L. Toombs, T. N. Belden, M. A. Deagle and J. O. Brown.

In June the winners were Drs. C. O. Wood, Bert Oja, Eric Hilton and L. N. Green.

In July the winners were Drs. Douglas Brown, C. D. McLeod, J. A. Bleakley and A. Diner.

In September the winners of special prizes were: High, Dr. P. Hutzulak; Low, Dr. G. A. Grant; Hidden Holes, High, Drs. W. J. Riley, R. H. Murdock, G. A. Grant; and Hidden Holes, Low, Drs. P. J. Gallagher, N. C. Carmichael, and H. R. Stewart.

**Winnipeg Dental Nurses and Assistants**

The Winnipeg Dental Nurses' and Assistants' Association held its regular monthly meeting and dinner on October 2.

Miss A. Bridgeman gave a most helpful paper on "The Use of the Telephone in a Dental Office." A very beneficial paper on "The Duties of a Dental Assistant," was given, also, by Miss J. Gordon.

Miss J. Grose was elected President, succeeding Miss M. Inkster, who leaves shortly to be married.—*D. A. Warren.*

*ONTARIO:*

**Letter and Resolution From Orthodontic Club**

To Lieut.-Col. W. G. Trelford, V.D:

In accordance with instructions received from the members of the Toronto Orthodontic Club at an emergent meeting, September 11, 1939, I am pleased to forward to you the enclosed resolution which was unanimously adopted.

In addition to the resolution, the members also unanimously adopted a policy, for the duration of the War, to voluntarily continue the practices of such members as are accepted for military service.

It was also decided that the subject for study for the season 1939-40 should be "Fractures of the Jaws."

(*Signed*) M. R. Culbert, *Secretary.*

Resolution

At an emergent meeting of the Toronto Orthodontic Club held September 11, 1939, the following resolution was unanimously adopted:—

Whereas orthodontists have special qualifications for rendering specific services, the value of which was amply demonstrated in the war of 1914-1918, and,

Whereas the members of the Toronto Orthodontic Club are desirous of placing their services at the disposal of their country,

Therefore, be it resolved that the members of the Club offer to Lieut.-Col. W. G. Trelford, V.D., District Dental Officer Commanding M.D. No. 2, and through him to Lieut.-Col. F. M. Lott, Chief Dental Officer, the services for which they are already trained.

M. R. Culbert, *Secretary.*

### Dentists with Militia

On October 5, the Toronto Globe and Mail reported that the 22nd Medium Battery of Cobourg, commanded by Major F. Drewery, had won the Governor-General's cup for general proficiency. This achievement is worthy of commendation and has more than passing interest when it is remembered that Major Drewery is a dental colleague, graduating in 1918 from Toronto.

No doubt there are many dentists in Canada serving with the Active Militia in combatant units. Only a few names are at hand: Major G. O. Hutchison of Ottawa, graduating with Class '27, Toronto; Major T. E. Hayhurst in the Essex Scottish of Windsor, graduating with Class '29, Toronto; Major H. A. McIntyre connected with the Huron County Regiment comes from Clinton, Ontario and graduated in 1923; Major Gordon L. Frawley in command of No. 1 Bridge Company of R.C.A.S.C., Toronto.

### New Secretary Appointed

At the regular fall session of the Board of Directors of the Royal College of Dental Surgeons of Ontario, Dr. D. W. Gullett of Picton, Ontario, was appointed secretary to the Board. Dr. Gullett graduated in 1923 and has practiced in Picton since that time. He has served as a member of the Board representing his district for some time.

Dr. Gullett will relieve Dr. W. E. Willmott of his secretarial duties in May, 1940, but Dr. Willmott will continue in his capacity as treasurer of the Board.

### Temporary Adjustments on the Staff of the Faculty of Dentistry, University of Toronto

Dr. F. M. Lott, Professor of Prosthetic Dentistry, and Mr. C. C. Rous, Secretary of the Faculty, have been granted leave of absence by the Board of Governors of the University of Toronto for the duration of the war.

Dr. R. J. Godfrey, Associate Professor, who is a whole-time member of the staff, has been asked to take charge of the department during Dr. Lott's absence.

Dr. W. S. Woollatt, who was appointed whole-time in the Infirmary last year following Dr. Switzer's death, will have the added duties of teaching complete denture prosthesis to the Second Year class.

These adjustments have increased the duties of Dr. R. G. Ellis who is in charge of the Infirmary.

Dr. J. M. Sheldon will take charge of the teaching of Ceramics, while Doctors Ante, Duff and Cole will give additional time in the Prosthetic Department.

Doctors T. N. Scott, J. G. Perkins and A. M. Hord have been given temporary appointments as Demonstrators in Dentistry.

### Port Arthur Gyro Club

A total of 108 under-privileged children of the public and separate schools were given treatment last year in the Port Arthur Gyro Club free dental clinic, at a total cost to the Club of $895.10. The appreciation of the Club has been extended to the dentists who gave their services at reduced fees.

### Dental Nurses' and Assistants' Association

Six members of the Provincial Association were privileged to attend the Fifteenth Convention of the American Dental Assistants' Association, held in Milwaukee in July. They included the President, Mrs. Ferna Cook, of Windsor; Past President, Miss Loretta McCaughey, of London; President-elect, Miss Iverna M. Rae, of Hamilton; the Founder, Mrs. Marion Edwards, of Toronto; President of the Toronto Chapter, Miss Madge Buik; and Miss Irean Checkley of the Toronto Chapter. All six Ontario members are now associate members of the American Association. Thirty-seven excellent clinics were given by the members and many splendid papers were presented at the Convention.

Many advantages are seen in these personal contacts, and a hearty invitation was extended by the Americans for Canadians to come to their next Convention, which will be held in Cleveland next September.

WINDSOR—The first fall meeting of the Essex County Dental Nurses' and Assistants' was held on September 11. A short business session took place, when the members offered their services to the Red Cross.

Due to the War situation Mr. Paul Martin, M.P., who was to be the speaker, was unable

to be present. A social half hour was held at the close of the meeting.

TORONTO—The first fall meeting of the Toronto Chapter opened at the Royal York Hotel, September 11, when Miss Madge Buik, President, outlined the program for the season.

It was unanimously agreed to offer the services of the members to the Empire for War work, to help in any way possible.

Reports of the American Dental Assistants' Convention in Milwaukee were read by the President and Miss Irean Checkley. Mrs. Marion Edwards read the paper "Clear as Crystal" which she had given at the Milwaukee meeting. Plans were made for raising money to help in patriotic work. An amusing skit was presented by Mrs. Tomye Turner. Arrangements were also made to continue the Chapter Bulletin "The Articulator" which proved so interesting last year.

The October meeting of this Chapter was held at the Royal York Hotel on October 2 with sixty-two members answering the roll call.

Several members were knitting socks during the meeting and it is expected that all will be doing so at the next meeting. Plans were laid for a play, to be presented at Hart House, University of Toronto, on November 29—the proceeds to be divided between the Queen's Own Chapter of the I.O.D.E. and the Toronto Chapter's own Patriotic Club.

Following the business session a most interesting and profitable lecture on "First Aid" was delivered by Dr. C. J. Copp, who generously remained to answer questions for the members. A course in St. John's Ambulance work is being arranged for later in the season.

WINDSOR—The Essex County Dental Assistants held their second meeting of the season on October 2, with the President, Miss Dorothy Scott, in the chair.

Communications were received regarding the forming of a Dominion-wide Association. This was discussed and approved in principle but owing to the War situation action was left in abeyance.

In order to raise funds for our own chapter, it was decided that each member give a birthday party at her home, charging 25 cents for the evening. Miss Winnifred Grier was named convener. Tickets for the yearly raffle, to be held in December, were distributed among the members.

Miss Janet Hamel read the report of the American Dental Assistants' Convention, held in Milwaukee last July. Miss Grace Barnet took charge of a round table discussion which completed the evening.

Several Detroit assistants were guests of the evening.

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### Dental Nurses' Alumnae Association of Canada

On October 10, the Dental Nurses' Alumnae Association met with the President, Miss Marjorie Joyner, conducting the meeting.

Definite plans were made to aid in war work and a class was formed to study the Red Cross courses in home nursing, home hygiene, and first aid.

Since last month's meeting the Alumnae offered their services to the Canadian Dental Corps for use in whatever way they may be of greatest assistance.

Dr. Wallace Graham, familiar to both the medical and dental profession, was the speaker of the evening, introduced by Miss G. Whitehead. He presented a very interesting paper, "Dietary Fads and Falacies." Following the meeting there was an animated discussion in which everyone present took part.

JEAN LINDSAY.

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### Ladies Auxiliary to Academy of Dentistry, Toronto

The opening meeting of the Ladies Dental Auxiliary took the form of a luncheon at Eaton's College St., on October 5. Mrs. L. Schumaker presided and Lt.-Col. W. G. Trelford, V.D., and Dr. G. V. Morton were guest speakers for the occasion. Following their addresses, an open discussion took place regarding how the Auxiliary could best serve the Canadian Dental Corps.

## *QUEBEC:*

### Montreal Dental Club

The Fifteenth Annual Fall Clinic of the Montreal Dental Club was held September 27-29. Dr. Campbell Morris presided, and the clinic was a great success. Due to war conditions the attendance was down about ten

per cent but the quality of the clinics, etc., was better than ever.

The following guest speakers participated: Dr. Clarence O. Simpson, of St. Louis, Mo., on "Radiodontic Service;" Dr. G. R. Lundquist, of Chicago, Ill., on the "Treatment of Pyorrhea;" Dr. Don E. Woodard, of Kansas City, Mo., on "Problems of Practice;" Dr. Walter V. McGilvra, of Worcester, Mass., on "Nitrous Oxide Oxygen Analgesia;" Dr. Gaylord J. James, of Cleveland, Ohio, on "Yourself, Your Profession and Your Future;" Dr. Lowrie J. Porter, of New York City, on "Dental Responsibilities in the Development of Growing Children;" and Dr. Carlisle C. Bastian, of New York City, on "Porcelain Jacket Crowns."

The twelve table clinics presented by the Ottawa Dental Society were among the highlights of the meeting. Dr. Stephen A. Moore paid a short visit and along with Lt.-Col. F. H. Bradley and Major F. W. Saunders spoke briefly on the Canadian Army Dental Corps. Among others who attended the Clinic were Dr. Ira Hamilton, of Ottawa, representing the Ontario Dental Association; Dr. R. M. Langille, of Truro, President of the Nova Scotia Dental Society; Dr. Maxwell Jamieson, of Burlington Vt., President of the Vermont State Dental Society; Dr. A. B. Morrow, of Ottawa, President of the Ottawa Dental Society; Dr. J. P. Coupland, of Ottawa, President of the Eastern Ontario Dental Society, and many others.

### Dental Nurses' and Assistants' Association

The members of the Montreal Dental Nurses' and Assistants' Association held their meetings on September 27-29, at the Mount Royal Hotel in conjunction with the Montreal Dental Club Fall Clinic.

"Practical Table Clinics" were given by the following members of the Club on Wednesday evening: Linen and Cotton, Miss Marie Keenan; Inlay Carving, Miss Nancy Reid; Inlay Investing, Miss Grace Robinson; Models, Miss Mildred Starr; Helpful Suggestions, Miss Marjorie McInnes; Mixing Cements and Porcelains, Miss Barbara MacCunn, Entertaining the Child Patient, Miss Lillian Fincher; Care of Needles and Syringes, Miss Suzanne Lamarre; and Safety First for the Patient, Miss Edna Nicolle.

Mrs. Ferna Cook, President of the Ontario Dental Nurses' and Assistants' Association, presented the prize given by Miss Grace Robinson for the best table clinic, to Miss Barbara MacCunn.

On Thursday morning the President, Miss Martha Barber, presided, and Dr. Campbell Morris, President of the Montreal Dental Club, officially opened the meeting. The speakers during the day were Dr. E. E. Steeves, of New York, Professor W. D. Tait, of McGill University, Mr. K. L. Rice, of the British American Oil Company and Dr. S. G. McCaughey, of Ottawa.

Miss Lillian Fincher, Vice-president, presided at the luncheon and Dr. L. P. Nelligan, of St. Mary's Hospital, was the guest speaker.

Dr. A. D. Angus presented the prizes awarded by the Montreal Dental Club for the best posters to Miss Grace Robinson and Miss Phyllis Smith.

The meeting came to a close with an at home given by the executive.

## EMPIRE NEWS

*GREAT BRITAIN:*

### Preparation at Guy's

We are at war, and under that prime necessity Guy's has accommodated itself to a new environment quicker and more easily than could have been thought possible.

The first sign of abnormality in the Hospital appeared on Saturday, August 26, when students were invited to dig trenches in the Park, under the supervision of the Works Department. These were in the form of a W, with entrances at the Medical School, Medical Block and Nurses' Home. The work was admirably done. The digging was finished by Tuesday; on Wednesday the old iron chimney of the laundry, which was replaced a short time ago by a concrete one, was removed from its resting place in the Works Department and cut into sections, and these semi-cylinders were used as roofing. On

Thursday and Friday the roofing was completed and the final covering of sandbags and earth applied. The entrances have now been heavily sandbagged and all is ready.—*Excerpt from Guy's Hospital Gazette, September* 9, 1939.

*AUSTRALIA:*

**Tenth Australian Dental Congress**

It is estimated that over 500 attended the Congress at Melbourne, August 21-26, including visitors from all the States of Australia, Great Britain, United States of America, New Zealand and elsewhere.

Australia is a country of small population and long distances, its large cities being 600 miles and more from one another. Sydney is over 700 miles south of Brisbane; Melbourne is about 600 miles south of Sydney; Adelaide is about the same distance west of Melbourne; and Perth, the western State of the Commonwealth, is 1,500 miles west of Adelaide. Considering these distances the attendance at the Congress was most noteworthy.

The official program was highly artistic and comprehensive and reflected great credit upon the members of the Executive and the various committees responsible for promoting the interests of the Congress.

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# GENERAL NEWS

**Information Regarding Appointment to the Canadian Dental Corps**

It is evident from the many enquiries received that there is much interest and considerable uncertainty in the minds of dentists as to the qualifications demanded for appointment to the Canadian Dental Corps.

The policy with regard to this matter has now been formulated by National Defence Headquarters and it is, therefore, possible to release the following particulars, which it is hoped will serve to clarify the situation.

QUALIFICATION OF OFFICERS — C.D.C.

1. *Graduates With Military Qualifications.*

(a) First appointments to the Canadian Dental Corps shall be with rank of Lieutenant. A candidate must be a registered dental practitioner in one of the Provinces. (K.R. Can. 160).

(b) A Lieutenant, on completion of two years' service, may be promoted to the rank of Captain in the Non-Permanent Active Militia. Commissioned service on the Active List, Canadian Militia, other than as a Dental Officer, may be considered as qualifying service for this step in rank, provided it was rendered subsequent to the date on which the officer became a dental practitioner. (K.R. Can. 184).

A Lieutenant in the Canadian Active Service Force may be promoted to the rank of Captain as vacancies occur in the establishment.

(c) A Captain, on completion of ten years' commissioned service on the active list, C.D.C., Non-Permanent Active Militia, may be promoted to the rank of Major to fill a vacancy in the establishment. (K.R. Can. 183).

In the Canadian Active Service Force, a Captain may be promoted to fill a vacancy as it occurs.

Since dental officers in the Clinic Detachments are allowed the rank of Captain or even Major, dependent upon efficiency and the possession of certain professional qualifications of particular value, the interpretation of the word, vacancy, is less rigid than in branches of the Service with fixed establishments.

2. *Graduates Without Military Qualifications.*

(a) Appointment to the Dental Corps will be with the rank of Lieutenant.

(b) Before being considered for promotion to the rank of Captain, a Dental officer must obtain qualification for the rank of Captain. The subjects are enumerated in the first paper, Common to all Arms (less tactics) Lieutenant to Captain, as detailed in pages 13 and 14 of "How to Qualify, N.P.A.M." For ready reference a summary of this information will be published in December issue of this journal.

(c) In the C.A.S.F. the subjects are the same, but the examination is practical only, and is conducted by a Board of Examiners convened by the Officer Commanding the District.

(d) Officers may obtain instruction in preparation for their examination by attending a Regimental Course of any arm, the C.O.T.C., or a Training Centre established for the training of reinforcements for the C.A.S.F.

(e) University graduates are also eligible for enlistment in the C.O.T.C. of any University in order that they may receive training in preparation for their qualifying examination.

3. *Undergraduates.*

(a) Training of the C.O.T.C. will continue with the object of affording the members a standardized measure of military training with a view to eventual qualification for commissioned rank in units of the Active Militia, and through them into units of the C.A.S.F.

(b) It is considered that six hours per week for twenty-five weeks should be just sufficient, if attendances are regular, to achieve the desired standard in preparation for the qualifying examinations for the rank of Captain.

(c) Members of the C.O.T.C., on obtaining qualification for the rank of Captain, will be eligible for appointment to commissioned rank on the General List, C.D.C., N.P.A.M., and from there to units of the C.A.S.F. as vacancies occur.

## Mr. Henry Thompson

The following kindly tribute to the late Mr. Henry Thompson, President of the Dental Company of Canada, is written by Mr. Charles A. McKenna.

### Henry is Dead

To thousands of dentists all over Canada from the Atlantic to the Pacific, to hundreds who were his competitors, he was "Henry Thompson". It says something for a man's character that his customers and competitors should know him best by his christian name. To many dentists and many more engaged in the dental supply industry in the United States, in Great Britain and in other countries, the name of Henry Thompson was known and respected as that of a man of sterling worth and great character.

The small army of people in his own organization which he had builded from small beginnings into a national business, not only respected him but loved him. He was a kindly employer who did many fine and noble acts, not only for the people for whom he felt responsible but for hosts of others. The underprivileged, the destitute and the sick, never made an unsuccessful appeal to Henry Thompson. His many acts of kindness and charity were known only by those who were in close daily contact with him. There never was a known worthy project which did not benefit through the financial help of Henry Thompson. His memory will live long in the minds of those who were privileged to know him.

To his widow, his sons, their wives and his grandchildren we extend our heartfelt sympathy and hope that the memory they will have of the many kind deeds which were a pleasure to him to do, will be a consolation in their grief and bereavement.

## The Registration of Dental Practitioners for Prospective Appointments in the Canadian Dental Corps

In view of the present national emergency it has been considered wise to prepare for future appointments of Dental Officers by securing particulars of those who might wish to serve.

It is, therefore, requested that any dentist who would be interested in securing an appointment to the Canadian Dental Corps, should register his military and professional qualifications with the District Dental Officer of the Military District in which he resides.

These gentlemen are as follows:

M.D.
No. 1. Major John Blair, D.S.O. ..... London, Ont.
2. Lt.-Col. W. G. Trelford, V.D. .. Toronto, Ont.
3. Lt.-Col. John Broom, E.D. ..... Kingston, Ont.
4. Major F. W. Saunders ..... Montreal, P.Q.
5. Lt.-Col. J. W. Rooney, E.D. ..... Quebec, P.Q.
6. Major C. B. Climo, D.C.M., E.D. ..... Halifax, N.S.
7. Major J. F. Edgecombe ..... Saint John, N.B.
10. Lt.-Col. W. W. Wright ..... Winnipeg, Man.
11. Capt. E. Fraser Allen ..... Victoria, B.C.
12. Lt.-Col. Geo. L. Cameron, D.S.O., V.D. ..... Regina, Sask.
13. Major L. V. Janes ..... Calgary, Alta.

The information rendered should cover the following points and be listed in this order:

1. Name of applicant in full. This will assist Headquarters in referring to former records of the registrant.
2. Age.
3. Whether or not a British subject. Only British subjects can be considered for appointment.
4. Probable physical fitness.
5. Particulars of former military service and training.
6. Year of graduation and name of University.
7. Dental licenses held.
8. Particulars of special professional training.
9. Notice required before entering upon duty.

### Registration of Dental Technicians For Possible Enlistment in the Canadian Dental Corps

In the recruiting of men of specialized training, it is highly desirable that dental technicians should be given an opportunity for service in the Dental Corps.

The most logical method of insuring preference for those with superior training would seem to be a system of registration, and it is therefore requested that all technicians interested in serving with the Canadian Dental Corps should register with the District Dental Officer of the Military District in which they reside.

The District Dental Officers are as follows:

M.D.
No. 1. Major John Blair, D.S.O. ..... London, Ont.
2. Lt.-Col. W. G. Trelford, V.D. .. Toronto, Ont.
3. Lt.-Col. John Broom, E.D. ..... Kingston, Ont.
4. Major F. W. Saunders ..... Montreal, P.Q.
5. Lt.-Col. J. W. Rooney ..... Quebec, P.Q.
6. Major C. B. Climo, D.C.M. ..... Halifax, N.S.
7. Major J. F. Edgecombe ..... Saint John, N.B.
10. Lt.-Col. W. W. Wright ..... Winnipeg, Man.
11. Capt. E. Fraser Allen ..... Victoria, B.C.
12. Lt.-Col. Geo. L. Cameron, D.S.O., V.D. ..... Regina, Sask.
13. Major L. V. Janes ..... Calgary, Alta.

The information submitted should include the following items and in the order noted.

1. Name in full.
2. Age.
3. Birthplace.
4. Whether or not a British subject. Only British subjects can be enlisted.
5. Probable physical fitness.
6. Previous military experience.
7. Length of notice required before reporting for duty.
8. From the technical standpoint, experience in dental laboratory work in its various branches.

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### C.D.A. President

Our President, Dr. Stephen A. Moore, has returned from a trip to Toronto, Montreal and Ottawa in the interests of our Association. At Toronto he represented the Canadian Dental Association at the annual dinner of the American Hospital Association. At Montreal he spoke at the convention of the Montreal Dental Club. At Ottawa he interviewed the authorities relative to the Incorporation of our Association and reports that the matter should be consummated in the near future, as well as dealing with other matters of vital interest to the dentists of Canada. Dr. Moore also interviewed our Director of Dental Services, Lieut.-Col. Lott and reports that fine progress is being made in the mobilization of the Dental Corps.

### Public Relations Committee of the C.D.A.

In a recent issue of the Journal the personnel of the various committees of the C.D.A. were published. Chairman Dr. J. S. Lapp of the Public Relations Committee has drawn attention to the fact that his committee was incorrectly reported. Members of the Public Relations Committee of the C.D.A. follow: Chairman, John S. Lapp, Toronto; Central Committee,—J. A. Boyd, Stratford, Ont.; F. J. Conboy, Toronto; J. C. Devitt, Bowmanville, Ont.; E. A. Grant, Toronto; E. T. Guest, Toronto; E. C. Veitch, Toronto; Provincial Representatives,—E. Fraser Allen, Vancouver, B.C.; F. Boyaner, Saint John, N.B.; R. R. Dalgleish, Sydney, B.C.; J. C. Flanagan, Montreal, P.Q.; Harold Johnson, Moose Jaw, Sask.; C. M. Fletcher, Lethbridge, Alta.; A. McMurdo, Summerside, P.E.I.; H. J. Merkeley, Winnipeg, Man.

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### Court Upholds Kentucky Dental Laws

Kentucky's new law forbidding dentists to advertise that they extend credit has been upheld by the Court of Appeal.

Judge Thomas held that in prescribing "regulations for a profession, different considerations apply from those where a purely commercial enterprise is involved."

"All dentists, as well as surgeons and members of other professions, are not of equal capacity," he continued, and he declared that it was "within the province of the legislature to forbid the attempt to influence the public generally in selection of a dentist through the media of advertisements of credit or credit terms."—*Louisville Courier-Jour., per J.A.D.A.*

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A doll-size hot-water bottle now on the market is said to be a handy medicine-cabinet accessory for use in the treatment of toothache and similar ailments. Fitted with a leakproof rubber stopper, the bottle has a neck large enough to admit crushed ice, so that it may also be used as an ice pack.—*Popular Science Monthly: A.D.A. Release.*

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Dentifrices, with sales in 1937 amounting to $35,559,134, lead all other products for that year listed in the Manufacturers' Census of perfumes, cosmetics and other toiletries.

*Retail Ad-viser—5/13/39, A.D.A. Release.*

# IN MEMORIAM

The members of the Canadian Dental Association extend their heartfelt sympathy to the bereaved relatives of the deceased referred to in this Section of the Journal.

*"The surest pledge of a deathless name*
*Is the silent homage of thoughts unspoken."*

**Henry Thompson,** President of the Dental Company of Canada, died October 20th in Toronto General Hospital following a lengthy illness. Mr. Thompson was born in England and came to Canada as a young man. His first experience in the dental field was gained while associated with hte Dental Manufacturing Company of London. In 1904 he became associated with the S. S. White Company, Limited, in their Toronto office and was with them until 1916. During the later years of his association with this company he was General Manager. In 1916 Mr. Thompson and a group of colleagues purchased the retail business of the S. S. White Company in Canada and continued under the name of "The Dental Company of Canada" with Mr. Thompson, President and General Manager.

Mr. Thompson was a member of Beaches Lodge A.F. & A.M., Canada Bowling Club, St. George's Society and the Toronto Board of Trade. He was an Anglican, a member of St. Stephen's Church.

He is survived by his widow and two sons, Lawrence E. and Dr. Henry A. Thompson.

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**Gordon W. Greacen,** of Rochester, N.Y. died September 22 in Strong Memorial Hospital, following a major operation.

He has resided in Rochester for the past fifteen years, most of which time he has conducted a dental practice there in association with Dr. Albert E. Sager.

He was a Toronto boy, attending Upper Canada College and finally graduating from the Faculty of Dentistry, University of Toronto. He served three years in the Rochester Dental Clinic.

Dr. Greacen was brought to Toronto for burial. Interment took place in Mount Pleasant cemetery on September 25. He is survived by his widow and mother.

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**Roy Thorpe,** of Calgary, Alberta, died suddenly of a heart attack on October 2. A native of Calgary he attended public and high school there and was graduated from the Dental Department of the University of Alberta in 1929.

He was a member of the Gyro Club of Calgary, Zetland Lodge A.F.A.M., and of the Southern Alberta Pioneers and Old-timers Association. He was also a past president of the Calgary Dental Association, and a member of the Board of Directors of Mount Royal College.

In the passing of Dr. Thorpe, Calgary and Alberta dentists lose from their midst a man of highest ideals, whose kindly friendship endeared him to all. The attendance, in a body, of the members of the Calgary Dental Society at the funeral was a tribute to the esteem in which he was held.

Dr. Thorpe is survived by his widow and one son.

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**Orlando Hallman Ziegler,** of Toronto, Ontario, aged 81, died on September 11. He was graduated from the Dental College in Toronto and later obtained his Master's Degree at the same institution. Dr. Ziegler commenced his professional life in London, Ontario, moving to Toronto about fifty years ago, where he built up a large practice and made many friends.

## . . . SECTION FRANÇAISE . . .

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# *Essai d'Anatomie Dentaire Comparée*


par DR VIGER PLAMONDON, D.D.S., M.S., Québec



Extrait du Rapport Annuel de la SOCIETE PROVANCHER — 1938


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Avons-nous songé à étendre nos connaissances d'anatomie dentaire chez les animaux pour nous rendre compte combien la Divine Providence a bien arrangé les choses?

Nous savons tous, par exemple, que les dents servent à mastiquer les aliments tant chez l'homme que chez les animaux. L'inspection seule, des formes qu'affectent les différentes sortes de dents, permet de leur reconnaître des rôles variés dans cette opération complexe de la mastication; les incisives servent à couper les matières alimentaires; les canines à les déchirer; les molaires à les broyer et les triturer. On peut s'en rendre compte d'une manière plus exacte en examinant comment change avec le mode d'alimentation, le nombre et la forme des dents, quand on les étudie chez les animaux.

Ces êtres terrestres, aquatiques et aériens sont trop nombreux pour que nous puissions espérer les connaître tous. Nous pouvons du moins, chercher à savoir, dans leurs traits généraux, les ressemblances et leurs différences qui les caractérisent, de manière à les distribuer en un certain nombre de groupes dont chacun renfermera les animaux qui offrent entre eux le plus de rapports au point de vue dentaire.

Nous savons qu'il existe une classification internationale des animaux, mais pour les besoins présents que l'on nous permette de les repartir de la manière suivante; savoir:

1.—Les Carnivores.
2.—Les Rongeurs.
3.—Les Herbivores.
4.—Les Omnivores.
5.—Les Edentés.

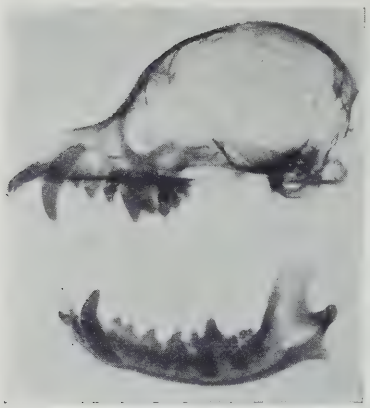

Fig. 1—Radiographie
*Canis familiaris,* (4 ans).

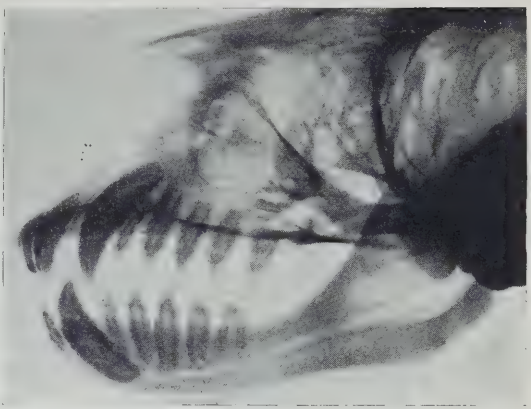

Fig. 3—Radiographie
*Phocaena phocaena.*

La première catégorie nous présente les carnivores. Ces animaux ont une denture puissante et coupante en rapport avec leur régime de chair vivante ou morte. Leurs maxillaires, comme chez l'homme, portent trois sortes de dents; mais celles-ci, par leur nombre et leur forme, répondent au régime carnassier de l'animal.

Nous trouvons chez le carnivore, sur une demi-mâchoire supérieure, à partir de la ligne médiane: trois incisives peu développées; une canine très forte et pointue; quatre molaires dont la troisième est très puissante; tandis que la quatrième est très réduite, mais elles ont toutes une couronne tranchante et à trois cuspes principaux. La demi-mandibule offre la même denture avec cette différence que la quatrième molaire fait défaut.

Examinons maintenant de quelle manière se termine la branche montante de sa mandibule. Le condyle a ici la forme d'une barre allongée transversalement et s'articulant dans la cavité glénoïde qui la moule exactement, de manière à ne permettre à la mandibule tout entière que des mouvements très réduits de haut en bas et vice-versa.

Si, au contraire, nous considérons un

Fig. 2—Radiographie
*Euarctos americanus,* (2 ans).

Fig. 4—Radiographie
*Lepus americanus.*

animal habitué à se nourrir de substances végétales ou de graines; tel le *Castor canadensis.* Son maxillaire nous offrira à partir de la ligne médiane; une incisive longue et courbe, usée en forme de ciseau à bois à son bord incisif; pas de canine; quatre molaires très rapprochées les unes des autres, offrant l'aspect d'une lime. La même denture existe à la mandibule. L'extrémité radiculaire de l'incisive inférieure chez le *lepus americanus* (figure 4) correspond au tiers inférieur et in-

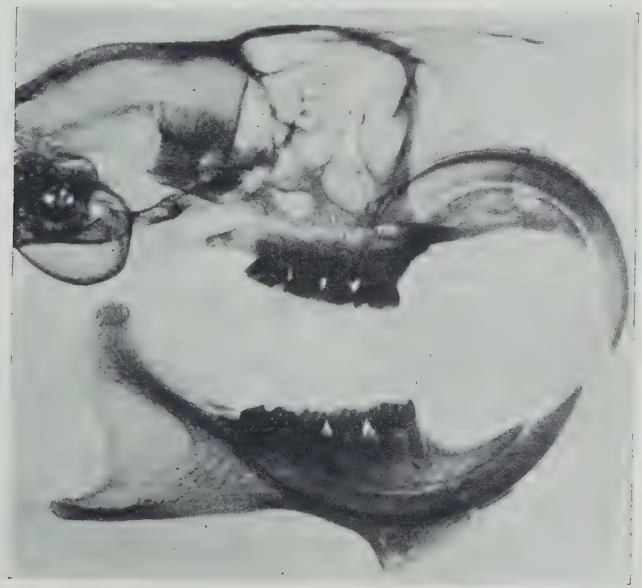

Fig. 5—Radiographie
*Erithzon dorsatum.*

terne de la première molaire, tandis qu'elle va jusqu'à la troisième molaire chez le *erithzon dorsatum* (figure 5) et qu'elle se prolonge au delà de la dernière molaire de quelques mm. chez le *rattus norvegicus, l'ondatra zébéthica* et le *castor canadensis* (figure 6).

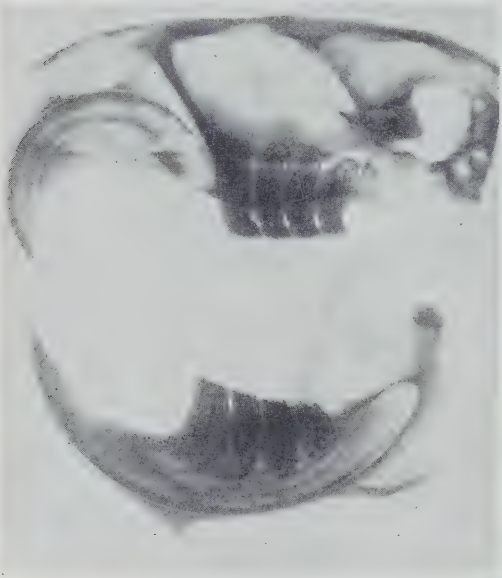

**Fig. 6—Radiographie**
*Castor canadensis.*

Enfin, la branche montante du maxillaire inférieur du rongeur se termine par un condyle allongé d'avant en arrière cette fois, en forme de barre et ne permettant à celui-ci que des mouvements de va-et-vient en plus de ceux d'élévation et d'abaissement.

Chez les herbivores, nous remarquons au maxillaire du cheval, par exemple; trois incisives assez longues; une canine très petite, suivie d'un long espace dépourvu de dents; six molaires dont la couronne aplatie d'une façon générale présente des saillies contournées. Les dents de la mandibule sont identiques quant au nombre.

Aux herbivores appartiennent aussi les ruminants. Ceux-ci sont généralement dépourvus d'incisives au maxillaire supérieur. Plusieurs manquent de canines; les molaires sont à couronne plane, offrant des sinuosités en forme de croissants. Selon M. Boule—"Si la plupart des ruminants sont dépourvus de cornes, il en est chez qui ce caractère fait complètement défaut; comme le chameau, mais, chose remarquable, ce qu'ils perdent sur ce point, ils le regagnent du côté denture: munis d'incisives au maxillaire supérieur aussi bien qu'à la mandibule, ils possèdent des canines, petites à vrai dire; il semble que les cornes et les canines soient, chez les ruminants, deux sortes d'organes qui s'excluent réciproquement". Leur mandibule, indépendamment des mouvements d'abaissement et d'élévation, exécute encore des mouvements latéraux qui ont pour but de faciliter la trituration des substances dont se nourrissent ces animaux essentiellement herbivores.

Vient ensuite un groupe d'animaux s'accommodant à tous les régimes d'alimentation. Nous avons nommé les "Omnivores". L'homme, dont le système dentaire possède

**Fig. 7—Radiographie**
*Odocoileus virginanus* (2 jours).

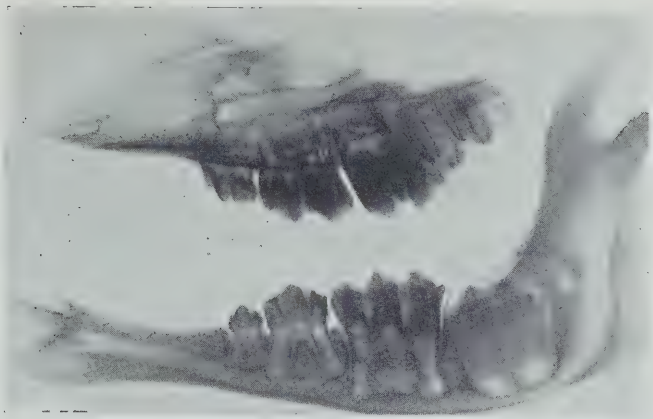

**Fig. 8—Radiographie**
*Bos domesticus* (10 jours).

toutes les dents que l'on rencontre chez les trois catégories précédentes, est polyphage. La forme de ses dents indique néanmoins qu'il est plutôt destiné à se nourrir de substances végétales, de fruits; aussi ce n'est qu'après l'avoir ramollie par la cuisson qu'il mange la chair des animaux.

Les singes ont une denture à peu près semblable à celle de l'homme, cependant ils ont dix molaires à chaque maxillaire et les canines sont plus fortes et plus aiguës. Gregory nous dit que ceux de l'ancien continent ont trente-deux dents, tandis que ceux du nouveau, au contraire, en ont trente-six. Comme spécimen de cette classe, désignons pour l'instant le porc. Il a sur chaque demi-mâchoire; trois incisives, une canine longue et courbe, sept molaires à peu près toutes de dimension moyenne et également séparées.

Les reptiles, les batraciens et les poissons possèdent un système dentaire plus ou moins rudimentaire dont la fonction est plutôt la préhension des aliments que la mastication. Seuls les vertébrés mammifères ont des dents bien différenciées. Un ordre cependant fait exception, ce sont les échidnés et l'ornithorynque. Ce dernier a les mâchoires en forme de bec de canard; garnies de lames cornées, il présente du reste des particularités de structure qui se rapprochent jusqu'à un certain point des oiseaux.

Il existe des animaux dont la connaissance doit attirer notre attention et que leur nom "d'édentés" pourrait faire considérer comme totalement dépourvus

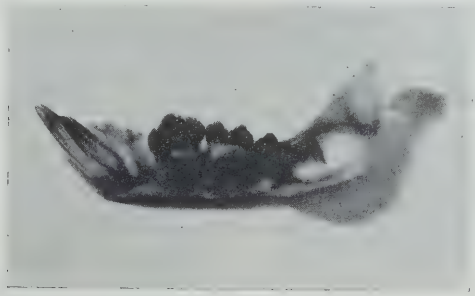

**Fig. 9—Radiographie**
*Usus domesticus* (30 jours) max. inf.

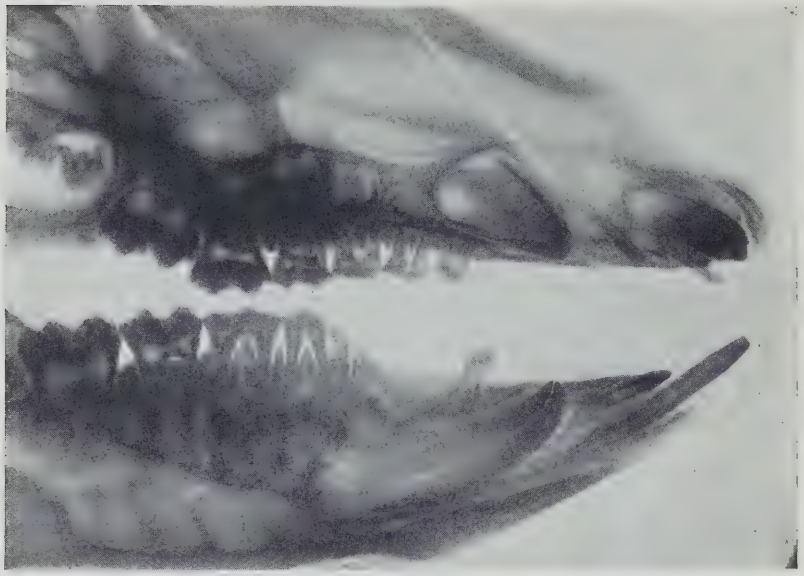

**Fig. 10—Radiographie**
*Usus domesticus* (8 mois) montrant les dents temporaires et les permanentes.

de dents. Ce serait une erreur; si quelques édentés, comme le "Fourmillier Tamanoir" sont absolument dépourvus de dent, la plupart, au contraire, en possède, mais ces dents nombreuses et petites, présentent toutes la même forme. On trouve parmi les édentés des herbivores; tel le "Lamantin" . . . des édentés cétacés; telle la "Baleine".

Il faut inclure aussi parmi les édentés les oiseaux dont la forme du bec est très variable. Elle se modifie comme celle des pattes d'ailleurs avec le genre d'existence que mène l'animal. Ainsi, chez les oiseaux de proie, le maxillaire supérieur plus long que la mandibule est recourbé en forme de crochet. Chez ceux qui se nourrissent d'insectes, le bec est long et mince. Leurs maxillaires sont à peu près égaux. Chez ceux qui vivent de graines, il est court et conique. Les glandes salivaires sont peu developpées; il résulte de ce fait et de l'absence des dents que les aliments arrivent à peine modifiés dans l'estomac. Tout le travail se fait dans un organe propre à ces animaux et que l'on appelle "le gésier" dont la structure extrêmement développée, broie par ses contractions, en les malaxant avec des graviers que les oiseaux ingèrent en même temps que leur nourriture, les aliments dont ils vivent.

**Fig. 11—Radiographie**
*Corvus brachyrhynchos.*

Dans le but de faciliter la compréhension de nos avancés, nous avons cru que la radiographie serait d'un précieux auxiliaire. Aussi les quelques centaines de crânes en notre possession ont subi cette épreuve.

L'examen radiographique des maxil-

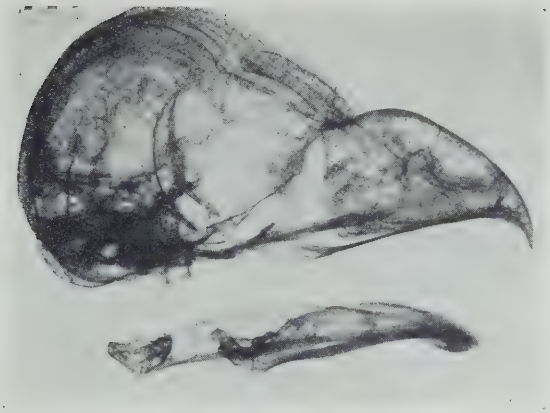

**Fig. 12—Radiographie**
*Circus hudsonius.*

laires normaux donne d'utiles renseignements anatomiques, complétant les données fournies par l'ostéologie et par l'anatomie descriptive et topographique.

L'appareil employé dans l'occurence est une machine à radiographie dentaire dite "Ritter"; munie d'un tube "Coolidge" de 10 milliampères et d'un transformateur de 45,000 volts, opérant avec un courant de 110 volts. La distance minima de l'anti-cathode à la surface sensible de l'émulsion est de trois pouces.

La détermination du temps de pose constituait pour l'opérateur un véritable cauchemar puisque, contrairement à la radiographie des individus, il n'existe pas d'échelle précise en radiographie dentaire comparée. L'opérateur dut procéder par tâtonnements dans chaque cas jusqu'au rendement maximum en notant soigneusement le temps de pose, l'épaisseur et la densité des tissus radiographiés, la distance de l'anti-cathode à la surface de l'émulsion sensible afin d'établir une échelle de pose.

Au cours de cette étude, les pellicules dentaires "Eastman" suivantes furent employées à savoir: "Radiatized" . . . "Occlusale Super-Speed" . . . et "Extra-buccale Ultra-Speed".

Comme on le pense, les méthodes de radiographie sont nombreuses; leur but commun est de faire des clichés présentant le minimum de déformation et le maximum de clarté. Pour obtenir ce résultat, nous avons tantôt sectionné les crânes à la ligne médiane, tantôt nous avons employé les méthodes intra-buccale, occlusale inférieure ou supérieure. Il est bon de noter qu'aucun écran renforçateur ne fut employé au cours des poses. Nous avons essayé de réunir en un tableau ci-dessous quelques détails intéressants.

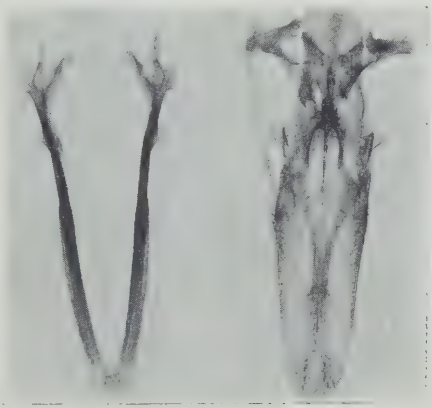

**Fig. 13—Radiographie**
*Chen hyperboreus nivalis.*

## CARNIVORES TERRESTRES:

| Noms Scientifiques | Noms Français | Noms Anglais | Lieux de Provenance | Genres de Pellicules | Méthodes Employées | Temps de Pose — Secondes | Distance de l'anti-cathode — Pouces |
|---|---|---|---|---|---|---|---|
| *Mustela cicognani* | Belette | Weasel | St-Michel-des-Sts | Ultra-Speed | Extra-buccale | 3½ | 5 |
| *Felis domesticus* | Chat | Cat | Québec | " " | " " | 3 | 5 |
| *Canis familiaris* | Chien | Dog | Québec | Super-Speed | " " | 6 | 5 |
| *Léo barbarus* | Lionceau | Lion's cub | Nyassaland | Ultra-Speed | " " | 14 | 7½ |
| *Martes americana* | Martre | Pine marten | St-Michel-des-Sts | " " | " " | 4 | 5 |
| *Mephitis mephistica* | Mouffette d'Amérique | Canada Skunk | Boucherville | " " | " " | 4 | 5 |
| *Euarctos americanus* | Ours noir (1jr) | Black Bear | Stoneham | Radiatized | Intra-buccale | 2 | 3¾ |
| *Euarctos americanus* | Ours noir (2 mois) | Black Bear | Sept-Iles | Ultra-Speed | Extra-buccale | 3 | 7½ |
| *Euarctos americanus* | Ours noir (2 ans) | Black Bear | LaTuque | " " | " " | 14 | 7½ |
| *Tharlartos maritimus* | Ours blanc | Polar Bear | Ile Baffin | " " | " " | 10 | 36 |
| *Procyon lotor* | Raton-laveur | Racoon | Ste-Anne-de-la Pocatière | Super-Speed | " " | 4 | 5 |
| *Vulpes fulva* | Renard noir | Black Fox | N.-D.-des-Laurentides | Ultra-Speed | " " | 3 | 5 |
| *Mustela vison* | Vison | Mink | St-Raymond | " " | " " | 4 | 5 |

## CARNIVORES INSECTIVORES:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Sorex cinereus* | Musaraigne | Common Shrew | Château-Richer | Radiatized | Extra-buccale | 1 | 3¾ |
| *Parascalops breweri* | Taupe du Canada | Hairy-tailed Mole | Rivière-aux-Chiens | " | " " | 1 | 3¾ |

## CARNIVORES AQUATIQUES:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Globicephala melaena* | Globicéphale | Black Fish | Cap-St-Ignace | Ultra-Speed | Extra-buccale | 3 | 24 |
| *Phocaena phocaena* | Marsouin commun | Bay Porpoise | Trois-Pistoles | " " | " " | 4 | 15 |
| *Phoca vitulina* | Loup-marin d'esprit | Harbor Seal | Trois-Pistoles | " " | " " | 6 | 20 |
| *Lepisosteus osseus* | Lépidostée osseux | Car-Pike | St-Nicolas | " " | " " | 3 | 24 |
| *Petromyzon marinus* | Lamproie marine | Great Sea Lamprey | Ile D'Orléans | " " | " " | 2 | 16 |

## RONGEURS:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Castor canadensis* | Castor | Beaver | St-Michel-des-Sts | Ultra-Speed | Extra-buccale | 14 | 7½ |
| *Tamias striatus* | Tamias rayé | Chipmunk | Sillery | Radiatized | " " | 2 | 3¾ |
| *Ochotona princeps* | Pica | Rockey Mountain Pika | Québec | Super-Speed | " " | 3 | 5 |
| *Lepus americanus* | Lièvre d'Amérique | Varying Hare | Lac Simon | " " | " " | 3 | 5 |
| *Marmota monax canadensis* | Marmotte du Canada | Woodchuck | Ste-Foy | Ultra-Speed | " " | 12 | 7½ |
| *Erithzon dorsatum* | Porc-épic | Porcupine | St-Michel-des-Sts | " " | " " | 12 | 7½ |
| *Rattus norvegicus* | Rat | Black Rat | Québec | Radiatized | " " | 1½ | 3¾ |
| *Ondatra zébéthica* | Ondatra | Musk Rat | Trois-Pistoles | Ultra-Speed | " " | 12 | 7½ |
| *Mus musculus* | Souris | Mouse | Québec | Radiatized | " " | 1½ | 3¾ |
| *Mus decermanus* | Surmulot | Field Mouse | Château-Richer | " | " " | 2 | 3¾ |

## HERBIVORES:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Bos domesticus* | Boeuf | Ox | St-Placide | Ultra-Speed | Extra-buccale | 12 | 8 |
| *Caballus* | Cheval (15jrs) | Horse | St-Hermas | " " | " " | 12 | 7½ |
| *Caballus* | Cheval | Horse | St-Placide | " " | " " | 12 | 8 |
| *Odocoileus virginanus* | Cerf de Virginie | White tailed deer | Dosquet | " " | " " | 6 | 7½ |
| *Macropus titan* | Kangourou | Kangaroo | Melbourne, Australie | " " | " " | 8 | 7½ |
| *Alces americana* | Elan d'Amérique | Moose | St-Michel-des-Sts | " " | " " | 14 | 36 |

## OMNIVORES:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Usus domesticus* | Porc (1jr) | Young Hog | Ste-Anne-de-Bellevue | Ultra-Speed | Extra-buccale | 3 | 5 |
| *Usus domesticus* | Porc (30jrs) | Young Hog | Ste-Foy | " " | " " | 4 | 6 |
| *Usus domesticus* | Porc (8 mois) | Young Hog | St-Placide | " " | " " | 6 | 30 |
| *Cebus fatellus* | Ouistiti | Brown Capuchin | Québec | " " | " " | ¾ | 5 |

**EDENTES:**

| Noms Scientifiques | Noms Français | Noms Anglais | Lieux de Provenance | Genres de Pellicules | Méthodes Employées | Temps de Pose — Secondes | Distance de l'anti-cathode — Pouces |
|---|---|---|---|---|---|---|---|
| *Circus hudsonius* | Busard des marais | Marsh Hawk | Trois-Pistoles | Ultra-Speed | Extra-buccale | 3 | 4 |
| *Archibutéo logapus* | Buse pattue | Rough-Legged Hawk | Château-Richer | " " | " " | 4 | 4 |
| *Anas rubripes* | Canard noir | Black Duck | Trois-Pistoles | " " | " " | 2 | 5 |
| *Strix varia* | Chouette du Canada | Barred Owl | Québec | " " | " " | 4 | 4 |
| *Sula bassana* | Fou de bassan | Gannet | Bonaventure | " " | " " | 4 | 10 |
| *Corvus brachyrhynchos* | Corneille d'Amérique | American Crow | Sillery | " " | " " | 3 | 4 |
| *Meleagris Gallapavo Silvestris* | Dinde | Eastern Turkey | Charlesbourg | " " | " " | 3 | 4 |
| *Mergus serrator* | Harle à poitrine rousse | Red-breasted Merganser | Trois-Pistoles | " " | " " | 2 | 4 |
| *Chen hyperboreus nivalis* | Grand oie blanche | Greater snow Goose | Château-Richer | " " | " " | 2 | 5 |
| *Gallus domesticus* | Coq | Domestic Rooster | Loretteville | " " | " " | 2 | 4 |
| *Diemyctylus vindescens* | Salamandre tachetée | Spotted Newt | Château-Richer | " " | " " | 1 | 6 |
| *Chelydra serpentina* | La serpentine | Snapping Tortoise | Nicolet | " " | " " | 6 | 10 |

Ne ressort-il pas de cet exposé que les êtres vivants ont un système dentaire qui est fonction du genre d'aliment dont ils se nourrissent habituellement et qu'ils ne peuvent subsister si, expérimentalement, on cherche à changer leur nourriture. Nous avons vu au cours de cet essai:

1—chez l'animal habitué à déchirer sa proie, les incisives se réduire au profit des canines qui deviennent très aiguës et très tranchantes, en même temps que les molaires. La forme du condyle et celle de la cavité glénoïde ne permettent que des mouvements très réduits de bas en haut et vice-versa.

2—chez les rongeurs, les incisives sont très développées. Nous constatons absence de canines parce qu'ils n'en ont pas besoin pour déchirer leur nourriture, mais bien pour la couper. Aussi les maxillaires agissent-ils à la manière des branches de ciseaux ou de ceux d'une lime, procurant des mouvements d'avant en arrière et vice-versa puis ceux de haut en bas et vice-versa.

3—A mesure que le régime de l'animal devient plus herbivore, s'aplatir la couronne des molaires, absence totale de canines et quelque fois même des incisives. Aussi les mouvements de la mandibule sont-ils surtout ceux de latéralité, à part ceux d'élévation et d'abaissement.

4—L'omnivore présente à peu de différence près, les cinq mouvements que l'homme possède, avec les mêmes sortes de dents, bien que leur nombre et leur forme varient.

5—chez les édentés, nous trouvons cinq mouvements, savoir: de haut en bas et vice-versa, d'avant en arrière et vice-versa, en plus de celui de circonduction.

6—De tout ceci, il ressort que l'incisive est frugivore; la canine, carnivore; la molaire, omnivore.

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# Conception Moderne des Spécialités . . .

par le docteur ANTONIO BARBEAU
*professeur à la Faculté de Médecine de l'Université de Montréal*

I.—*Retour des spécialités à la médecine générale.*

En sémiologie, deux techniques possibles, l'une qu'assez improprement nous appellerons de *divergence*, l'autre que nous nommerons de *convergence*. La première appartient au spécialiste, averti, mais n'opérant qu'en spécialiste; la seconde est propre au spécialiste pour qui la médecine générale est la science mère, quotidiennement évoquée.

A) *Technique de divergence*:

Un symptôme. Par ses qualités particulières, ses associations dans le temps et l'espace, on remonte au diagnostic. Sorte d'éventail qui s'ouvre. . . .

B) *Technique de convergence*:

En marge du symptôme immédiatement constaté, on recherche *partout, tous* les autres symptômes, cliniques et biologiques, dans *tous* les appareils. Puis on les groupe, les hiérarchise, les synthétise. Ainsi comprend-on plus facilement leur genèse, leur mécanisme évolutif et partant leur thérapeutique.

N.B.:—1) Ces deux techniques ne sont pas exclusives l'une de l'autre. Affaire de cas, de circonstances de temps et de lieu. Mais il est clair que la primauté revient à la technique de convergence. Elle exige certes du spécialiste une culture plus étendue. En retour, elle garantit mieux la sûreté du diagnostic puisque le symptôme le plus apparent n'est pas nécessairement le plus important et qu'on peut retracer parfois le trouble primitif, étiologiquement à la base de tous les autres, dans un endroit insoupçonné au prime abord.

2) En fait, dans les services de spécialités les mieux organisés, c'est, de nos jours, cette méthode de convergence qui est le plus couramment employée.

3) Théoriquement et pratiquement, les spécialistes reviennent donc à la médecine générale.

II.—*L'art dentaire est une spécialité de la médecine.*

A) Les relations de la spécialité dentaire avec la médecine générale sont réciproquement très intimes:

a' *d'une part*: les troubles dentaires et paradentaires retentissent sur l'état général. Rarement de la façon brutale et grossière que l'on rapporte parfois. Très habituellement comme cause contributive à une multitude de malaises plus ou moins sérieux.

a'' *d'autre part*:

1) les affections systémiques provoquent des réactions sur la denture et la paradenture. Inutile, devant ce milieu de praticiens, d'insister sur cette vérité de La Palice.

2) la physiologie dentaire et paradentaire tient à *toute* la physiologie, singulièrement à la physiologie nutritive, endocrinienne, nerveuse. D'ailleurs, les interactions fonctionnelles sont, en biologie, un fait général. Evocation du schéma des dépendances cellulaires réciproques: os, foie, rein, système nerveux.

B) par suite:

b' on *conçoit* que le stade pédagogique de métier dentaire soit dans toutes les facultés de dentisterie historiquement dépassé depuis longtemps.

b'' on *prône*

1) les collaborations très étroites du dentiste et du médecin général.
2) l'excellence pour l'étudiant en médecine de posséder des notions solides de physiologie et de pathologie dentaire. . . . Ce qu'il n'a pas présentement, et qu'il faudra lui donner dans l'avenir.
3) la nécessité, pour le dentiste, de connaissances médicales, justes, étendues et modernes.

III.—*Or,* c'est la physiologie qui seule peut donner, si non la science entière, du moins la véritable culture médicale.

A preuve l'histoire même de la médecine.

D'abord religieuse, puis empirique, puis philosophique, puis anatomo-pathologique, elle est depuis Claude Bernard et Pasteur, physiologique.

Elle demeurera telle, physiologique, non pas en dépit du mouvement physico-chimique contemporain, mais en se l'incorporant, si on a soin de porter la physiologie qui nous intéresse sur son plan véritable qui est celui de la biologie humaine.

IV.—*Comment peut-on concevoir la biologie humaine?*

Par le jeu des forces qui se retrouvent et s'affrontent chez l'homme.

a) Chez l'homme, des forces jouent que la *physique* et la *chimie* connaissent.

b) elles opèrent—et cela les marque parfois d'un trait distinctif—dans une matière organisée que l'*anatomie* et l'*histologie* décrivent, et que la *zoologie* identifie chez les diverses espèces animales. *Biologie.*

c) la *physiologie systémique* explique le jeu de ces forces sur telle matière organisée en vue d'une fonction donnée v.g. circulation, digestion, respiration, excrétion.

N.B.:—a, b c constituent la base d'un triangle hypothétique.

d) les différentes fonctions sont solidarisées par deux grands mécanismes plus ou moins synergiques l'un de l'autre.

d' humoral et particulièrement endocrinien, dont la clé de voûte est l'hypophyse.

d'' le système nerveux, dont c'est un des rôles d'harmoniser le fonctionnement de l'organisme.

N.B.:—d' et d'' constituent, respectivement, les deux côtés du triangle hypothétique, dont le sommet représente le psychisme.

e) le *psychisme* repose donc, dans cet hypothétique schéma, sur toute la base physico-chimique, organique et physiologique, et tient aux deux côtés, endocrinien et nerveux du triangle, sur lequel de surcroît il peut retentir.

Corollaires physiologique, psychologique et thérapeutique.

f) Ce triangle hypothétique, c'est l'homme, spécifique, que déterminent deux autres ensembles de facteurs schématiquement représentés sous forme de cercles concentriques entourant le triangle.

f' cercle décrit par les conditions géographiques, sociologiques, ethniques, etc.

f'' cercle fait des tendances constitutionnelles, tempéramentales, caractériologiques dont la somme fixe le type individuel.

P.S.:—Inutile d'insister sur ce que ce schéma contient d'artificiel et d'inadéquat. Il ne veut que fixer les grandes lignes de relations qui, elles, sont certaines.

V.—Voir schéma.

VI.—*Résumé et conclusions*

1) La tendance, la meilleure et la plus courante des spécialistes est, sans négliger en sémiologie la technique de divergence, de recourir plus souvent à la technique de convergence; en d'autres termes de revenir plus habituellement à la médecine générale.

2) L'art dentaire, comme la neurologie, comme l'endocrinologie est une spécialité de la médecine. Le patient qu'on y traite présente des troubles dentaires, tenant à son état général et inversement à l'état général, physiologique ou pathologique retentit sur la denture et la paradenture.
D'où pour le médecin, nécessité de connaissances en art dentaire et pour le dentiste, nécessité de connaissances médicales.

3) Or, c'est la physiologie, et la physiologie seule, qui, de nos jours et pour l'avenir, est à la base de la culture médicale.

4) Mais une physiologie, comprise dans le sens d'une biologie humaine, empoignant l'homme tout entier, tel qu'il se présente à notre intervention médicale, théorique et pratique.

5) Sans aucun doute, une telle conception des spécialités est susceptible de donner à notre médecine et à notre dentisterie canadiennes-françaises, outre leur excellence intrinsèque, un cachet d'originalité très riche et très féconde.

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THE SERENE BEAUTY of lovely Lake Louise, gem of the Canadian Rockies. Brilliant poppies fringe the lake which reflects in its placid surface the glory of the surrounding peaks.

*—Photo courtesy Canadian Pacific Railway, and Saturday Night.*

## A Merry Christmas!

Christmas is coming! The windows of shops are brightened with tinsel and the berried holly makes gay the walls of a million homes. The mistletoe, protected no longer by druidic spells, is snatched from its root on the old apple tree and hung from the lintel or the chandelier, where from Christmas Eve until Twelfth Night laughing boys and girls may kiss beneath its shade without commitment or reproof. For a little while the crowds in stores, streets, subways, become kindly, tolerant of delays; they are hurried still, but they laugh more often. All the old anxieties and cares of autumn are still there and will furrow the brow again after the holidays, but the Christmas spirit makes them easier to bear; for the essence of that spirit is taking thought for others, and in so doing, more surely than in any other way, do men forget their own sorrows and distress. Around the candle-fruited tree, the faces of the older generation are transmuted by kindness until they seem as beautiful as the wondering eyes of the children, while upon one and all is worked the magic of the antique phrase: A MERRY CHRISTMAS!

*J. S.*

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# Principles Underlying Fixed Bridge Restorations*

by STANLEY D. TYLMAN, A.B., D.D.S., M.S., Chicago, Illinois

THE purpose of any prosthetic treatment is the correction of abnormal conditions, the restoration of part or all of the masticating organs, and the maintenance of these organs in a normal, healthy condition for as long a time as possible. To attain this objective satisfactorily, it is necessary not only to be able to execute the technical procedures involved, but what is more important, to recognize what conditions have to be avoided in the future, and what unusual and abnormal conditions or predispositions have to be counteracted.

The concept of a fixed bridge as a biologic necessity is more than mere mechanical execution. It assumes that every safeguard has been taken to preserve and protect the remaining tissues with a restoration that has been correctly planned and constructed, and which may be expected to give satisfactory service for a long time. We may rightfully expect from such an appliance no harmful effects to the patient.

Unless a proper balance is maintained between the mechanical and biologic values, we are not likely to obtain the optimum of values between the restoration and the dental and oral tissues.

During the past ten years the work that has been done on dental materials by investigators at the United States Bureau of Standards and in the various research laboratories of the manufacturers, has given the profession data which enable us to determine with reasonable accuracy the results which we may expect of certain given gold alloys, investments, waxes, etc; and we have built our technique and procedures along lines which enable us to predetermine with fair accuracy the end results. On the other hand, although we know that the potential capacity of resistance of the dental tissues is quite substantial, there are so many vital variables and unknown quantities that it is rather difficult to predict with any degree of certainty, the probable outcome of tissue reaction to changed environmental conditions other than by clinical study and tabulation.

Almost daily we have encountered teeth that from the standpoint of structural form and position, are markedly handicapped, yet functionally they are quite satisfactory. Although the science of mechanics is computable with a fair degree of certainty, that of biology is not. I am reminded of a statement made

* Presented at the Western Canada Dental Society Convention, Winnipeg, Manitoba, May 29, 1939.

by the professor to the college football player, who was also a student in the College of Engineering, when he told him that although he was able to compute the arc described and the distance travelled by a football when it was kicked with a given force and in a certain part on its surface, he would find it rather difficult to predict with any degree of accuracy the biologic reaction which he would obtain if he applied the same kick with the same force at the same point to a dog.

It is generally agreed that the past fifteen or twenty years have witnessed a marked growth and advance in the mechanical and aesthetic development of restorative dentistry. This has been accompanied by a concurrent development in the science of dental materials and their manipulations. There is an effort on the part of a large portion of the dental profession to correlate this scientific and mechanical advance with the advance of biological research. It is gratifying to note that many of the technical procedures are being modified and adapted to the more recent findings in these related fields.

It is not so many years ago that it was considered good practice to devitalize all teeth prior to the placement of a crown or a bridge retainer. It is comparatively recently that the inlay and the extracoronal types of bridge retainers have supplanted the former, more generally used Richmond crown. It is the exception now, rather than the rule to remove pulps in abutment teeth.

The recent research and study in the field of dental pathology and bacteriology, has greatly influenced the type of prosthetic appliances used. Although the physical integrity and the clinical crown of a tooth is essential when considering it as a bridge abutment, yet we must not lose sight of the fact that teeth are only the connecting links between the human body and the restorations. It must also be borne in mind that the peridental membrane, the alveolar process, and the other investing tissues form the real foundation for any restorative work which we may undertake. In order that the tissues may be acceptable and the foundation satisfactory, there must be present in these a normal, physiological tone which means that there may be no evidence of any pathologic lesion either acute or chronic.

### Do Teeth Move in Function?

It is only by the exercise of good judgment and the ability to discriminate the capacity of tissues to tolerate additional work, that we can render the best type of health service to the patient. If the function and service which a bridge restores are outweighed by the possible damage which the teeth and the sustaining tissues will endure, then it is very evident that a bridge should not be placed. Sometimes there exists a disposition to divide the human body into many parts and to assign a specialist to the care of each part. There further exists a tendency for each of these to sub-divide and localize their interests with the result that the body and its functions are no longer regarded and treated as a biologic unit. Such a dividing and sub-dividing is not a natural condition nor is it regarded as such by nature for we know that the violation of certain natural laws of health in one part of the body will react unfavourably in other parts. This excessive sub-dividing and focusing on minutiae very frequently leads to controversies which basically are not fundamental. We experienced such a situation at the time when heated arguments arose over the question, "Do teeth move in function?"; and some men honestly believed that this biologic condition could be maintained only by the use of certain types of tensofrictional attachments.

We know that a tooth has movement

in various directions; namely, bucco-lingually, mesio-distally, and apically. We have also been told that the average thickness of the peridental membrane is from two to three-tenths of a millimeter, and consequently the amount of such a movement which a tooth may undergo is very limited. Nevertheless it has been claimed that an inhibition or the elimination of even this small amount of movement was very injurious to the supporting teeth, and that it was absolutely essential to their well-being. We would be willing to concur in this conclusion, if it were true that the placement of a fixed bridge produced absolute fixation of the abutment teeth. This we know is not so because of the arrangement, the position and structural form of the peridental membrane. Because of the claims and counter claims made on both sides of this argument, we initiated a study at the University a little over sixteen years ago to study the tissue reaction when subjected to fixed bridges. This study which has been both clinical and radiographic, has convinced us that those teeth supporting bridges receive a reasonable amount of exercise and stimulation sufficient to maintain them in a state of health. We have also found that nature very readily compensates for any slight inhibition which may take place in the movement of teeth. It is well, therefore, not to be misled by an emphasis which is non-essential.

While we are ready to admit that teeth move during function and that this movement exerts a beneficial effect by stimulation of the surrounding tissues, we feel that this dogma has been slightly overemphasized. Teeth do not move individually each one in its own path by itself during function, but rather the entire arch consisting of all the teeth moves and functions in such a way that the teeth lose their individuality and function as a unit of a functioning whole. We cannot obtain occlusion in an individual tooth. Normal occlusion is found only when all the teeth meet their respective responsibilities and duties collectively.

### Age Limit

Although a fixed bridge may be considered in most partially edentulous areas and for patients of every age, we find that this type of service is primarily indicated for the adult type of patient. A fixed bridge is ordinarily contraindicated in children and young adolescents, due to the fact that very frequently the teeth are not fully erupted, the pulp chambers are unusually large, and thus may be easily exposed or damaged during the

preparation of the abutment. When used on children, a fixed appliance is primarily employed as a space maintainer, following the loss of a tooth at an early age. When constructed, these space maintainers are usually of a type serving a temporary function. They will be replaced by permanent structures when the patient reaches a more mature age.

As a matter of record, we find that in tabulating several thousand consecutive bridge cases, it has been found that only 10% of all such restorations are placed for patients between the ages of 17 and 19. This period in life may well be considered as a normal, minimum age limit for this type of service. It is true that bridges are placed for patients younger that 17, but as previously stated, they are of a more or less temporary nature. We find that in studying our records for this type of service for women, it is noted that only 5% of the total number of patients requiring bridge work, lies in the 17 to 19 year age group. It is also interesting to note that at the other extreme, or the older types of patients, namely, those falling in the 50 to 55 year range, there, likewise, the percentage is from 3 to 5% of the total bridge requirements for all patients served.

Inasmuch as senescence is the antonym of youth, the question might be raised whether it is practical or advisable to place extensive fixed bridgework in aged people. We realize, of course, that with age many changes occur in the human body. Likewise, it is difficult at this period of life to determine exactly what may be considered normal and what abnormal. As a result we might be mislead in our diagnosis and plan of treatment. We are, likewise, aware of the fact that in youth, tissues respond favourably to conditions which might be considered unfavourable, whereas in the aged, this response is not so readily obtained. Therefore, although the same quantitative conditions may be present in a young patient as in an old, we will find that in the latter the tissue response will be deficient and the appliance may fail.

The question was once raised by an eminent physiologist whether the loss of teeth in old age was not a natural safeguard against the extreme danger of overeating, and whether the very finely executed and placed restorations which we were giving these older patients, were not, in reality, working against natural laws.

Fixed partial denture service, therefore, is primarily a service intended for those patients between the ages of 20 and 55 years of age. The greatest need for this service for men comes between the ages of 20 and 30, while for women it comes between the ages of 30 and 39. When a fixed bridge must be placed in the mouth of a young patient, we have found it good policy to employ those types of retainers which are mainly extracoronal instead of the intra-coronal types; that is we favour the three-quarter veneer types, the onlay types, and the MacBoyle types of attachment, rather than the MO or the MOD types of preparation. In older patients we are quite safe in using the intra-coronal type because of the completed formation of the dentine and the gradual withdrawal of the pulp with the accompanying deposition of secondary dentine. However, when an MOD preparation is used for a child, the pulpal wall is not prepared as a plane surface from the mesial to distal, instead there are prepared two planes which rise as they approach the pulpal horns, having the highest points at these locations. In older patients where we can expect a recession of the pulp and secondary dentine, we also place two planes from mesial to distal, but these planes are at a lower level. By such a procedure we not only respect the biologic conditions encountered, but we also enhance and in-

crease the mechanical retention. The difference in the age of a patient has another bearing on our method of procedure when considering crowns or fixed bridges; I have reference to the cervical third in human teeth and to the investing tissues of this region.

### Gingival Margins of Inlays and Crowns

The question is often raised where should the gingival margin of an inlay or a crown be placed in relationship to the adjacent soft tissues. One group advocates a position slightly above the crest of the gingiva, another says at the crest, while still another suggests that it be carried below the crest of the gum tissue. The last group questions further, just how far below?

In reviewing our histology, we are aware of the fact that in most individuals up to the age of 20, the epithelial attachment is still on the enamel, while in mature or later life, the epithelial attachment has descended apically so that the cemento-enamel junction is uncovered. It is claimed that to place the margin below the crest of the gum tissue on young patients, will necessarily result in the detachment of the epithelial attachment which may result in infection and unnecessary damage. On the other hand we are told that there is a continual eruption of teeth and that eventually every submerged margin becomes exposed. We are told that the eruption of the teeth is not stopped at any period throughout life, but that it is only slowed down when the teeth come into occlusion. These facts place the dental profession more or less in a dilemma. In the first place in order to obtain aesthetic results, we are forced to place the margins of our crowns beneath the crest of the gum tissue. In the second place we are told that even though we place our margins beneath the crest of the gum tissue, due to this continuous eruption of the teeth, these margins will eventually become exposed to view, and consequently ruin the aesthetic effect originally attained. Not wishing to appear presumptuous, one wonders to what degree this question is largely one of academic interest. Certainly, numerous clinicians and dentists who have practiced for many years can produce clinical evidence in their own practice where a margin of a filling or crown placed beneath the crest of the gum tissue twenty or twenty-five years ago is still in that same relationship today. Surely, if the eruption of the teeth were as definite as we have been told that it is, these margins in almost every instance would be exposed. We follow the practice that in those patients past the age of 25, we terminate the gingival margins beneath the crest of the gum tissue. The point at which this line lies will be mid-way between the crest of the gingiva and the deepest portion of its cervical attachment. If, however, the occasion does arise that a fixed bridge must be placed for a young patient still having the epithelial attachment on the enamel, and if the alternative presents either detaching the tissues or not being able to obtain sufficient mechanical retention without doing so, then we are absolutely forced to carry the margins down to the point where sufficient mechanical retention is obtained, even though the epithelial attachment is detached. This, naturally, will occur only rarely and should be avoided if possible.

### Pulpless Teeth

We are frequently called upon to decide whether a pulpless tooth should be retained or extracted; and if retained, what the possibilities are of its giving satisfactory service. Although it is unquestionably true that a tooth with a vital pulp is better than one without it, still we have found in a careful analysis of

our records that pulpless teeth serve very satisfactorily as bridge abutments, if the tooth is carefully treated, filled, and kept under periodic surveillance. We should be influenced in our decision by ascertaining what the response has been and what service previously treated teeth have given that patient. If radiographic evidence indicates an unfavourable, biologic tissue reaction to treated teeth, then it is unwise to employ such teeth for bridge supports.

### Abnormal Teeth

We should take nothing for granted when making a diagnosis for a fixed bridge. Very frequently a tooth which exhibits an apparently favourable condition as a bridge retainer, will, upon radiographic examination, disclose its deficiency. I have particular reference to those cases where the clinical crown may be sufficiently long, yet upon examining the tooth radiographically, we find it may have an exceptionally short root length in proportion to its crown. A short root necessarily has a short peridental membrane attachment and the added torsional stress which would be encountered during normal functional movements would very quickly destroy the usefulness of that tooth as a bridge support. Where a tooth has been missing for any length of time, particularly in the posterior region of the lower arch, we find almost without exception, a mesial tipping together with a lingual inclination.

We have found that those teeth tipping beyond a twelve degree angle, should not ordinarily be used as bridge abutments. If they are, it will be found that the vertical stresses on the bridge will not be transmitted to the root in its long axis. The result will be that the peridental membrane is crushed and a breakdown of the tissues occurs on the mesial aspect of the tooth.

### Number of Teeth to be Replaced

Another important factor to consider when contemplating a fixed bridge, is the number of teeth that are present and the number of teeth that are to be replaced in the restoration. We have found that the ideal condition exists when two abutment teeth are available to replace one missing tooth; however, two abutment teeth can carry very satisfactorily the pontics of two missing teeth. This is especially true of the posterior region where the bridge extends more or less in a direct line from abutment to abutment, and where the teeth are functionally similar in nature. There are occasions when three or four missing teeth may be replaced satisfactorily with a fixed appliance. Such a condition frequently is found in a bridge extending from an upper cuspid to an upper second molar, or sometimes even to the third molar, and where the opposing arch is a tissue-borne artificial appliance. We find in these circumstances that the amount of poundage which the patient can exert between the bridge and the lower tissue-borne appliance will approximate 20% of the normal poundage which he could exert between his natural teeth in the same region.

For many years we have favoured the placing of six tooth bridges from a cuspid to a cuspid having only two abutment teeth. After a careful check of all the cases placed during the last twenty years, I have found that such an appliance will serve satisfactorily only under certain conditions. It is unsafe, however, to place a six tooth upper anterior bridge, if the patient is wearing a lower tissue-borne bilateral appliance. We have found in these instances that the major stresses of mastication are borne by the anterior teeth. In a few years there is a drift labially of the entire upper bridge with the abutment teeth moving bodily labially. We have seen these appliances move

as much as 5 millimeters anteriorly. When such a situation is encountered, and an anterior fixed bridge must be used, it is our recommendation that in addition to the retainers placed on the two cuspids, we also include the two first bicuspids, which are then to be united with rigid connectors to the cuspid retainers. It is our opinion that cantilever bridges are contraindicated in almost every condition in the mouth. Even the so-called exception of supplying a missing lateral by suspending it to a cuspid retainer, is not advisable for we have seen many such restorations wherein the lateral was gradually rotated labially out of its normal position. Whenever a bridge carries more than one pontic, it is good policy not only to reduce the size of the pontic bucco-lingually, but also to narrow it very definitely in its lingual one-half. This will result in wider embrasures which will stimulate the tissues and facilitate the self-cleansing of the restoration.

In addition to this we deepen the natural grooves which are normally found in the teeth replaced, and carve supplementary grooves through the marginal ridges. These permit the escape of food into the oral cavity, once it has been crushed between the teeth. Although these modifications are employed in the construction of the pontic, it is well to adhere rigidly to the type and contour of the natural teeth. It is essential that we restore proper contact points, proper convexities and concavities of the axial surfaces, especially so in the gingival regions.

### Proper Contour

Many a crown and bridge, perfect from a mechanical standpoint, has been lost because of the insufficient protection which was afforded the investing tissues due to the lack of proper contour in the gingival third area. Because a tooth touches its neighbour and we find it difficult to pass a ligature through the point of contact, is no assurance that either the form or the position of the contact is correctly placed. It is not an infrequent occurrence to see a crown which has been forced labially or lingually due to the improper positioning of the contact. Likewise, we have seen teeth that have either been raised or lowered in the arch due to the improper positioning of the contact occlusally. This is an essential factor in restorative dentistry which has not received the attention that it rightfully deserves.

Some teeth, because of their anatomical form and root structure, are more capable of accommodating the increase in stresses which accompany the placement of a bridge. The first molars, both maxillary and mandibular, are by far the strongest teeth available as bridge abutments. The cuspids, second molars, bicuspids, and upper central incisors, are next in their order of usefulness. The upper laterals and the lower incisors are the weakest teeth available for this purpose. Even this classification, however, is subject to certain prerequisites. If, for example the position of a cuspid is unfavourable, its root is short, or its supporting tissues deficient, it is quite evident that such a cuspid is not indicated as a bridge abutment.

### Peridental Membrane

A careful study of the peridental membrane may frequently be the determining factor in the success or failure of a fixed bridge. A peridental membrane is so constructed that forces directed in the long axis of the tooth, are received as in a hammock of suspending fibres. The occlusal forces are then transmitted to the surrounding alveolar bone as a pulling force. It is a biologic characteristic of bone, that when subjected to a continuous slight pressure, it absorbs; but it is stimulated by a pulling force or

tension and responds to it by depositing bone. It is by this pulling force, intermittently applied, that we maintain a healthy alveolar bone.

When the position of a tooth is such that the forces directed upon it are not transmitted properly to the bone, but results in a pressure area, there is a resultant resorption of the bone. When a tooth is not in function, the peridental membrane usually is very narrow or thin. Ordinarily a thinner peridental membrane gives a firmer tooth. However, because a tooth is firmer, does not necessarily mean that the attachment is stronger. We know that in a functioning tooth, the peridental membrane is wide and has strong, regularly oriented principal fibres which are quite capable of withstanding the forces of occlusion. When out of function the principal fibres are lost and there are present only irregular interstitial strands of the fibres.

It is important, therefore, to determine first, whether the physical makeup of the peridental membrane is such that it can withstand the additional forces of mastication which the bridge will impose upon it, and secondly, it is essential that the bridge be so constructed that the stresses transmitted will be vertical to the long axes of the roots.

### Relation to Other Dental Work

Furthermore, before starting the construction of a fixed bridge, all the previous dental work already placed should be carefully checked to insure ourselves against failure to perform a health service, and also to insure our own work against failure because of the neglect of another operator. We should observe the quality, the kind and the duration of the service, also the present condition of such restorations. If the patient is neglectful and does not practice correct mouth hygiene, and if as a result the teeth are in a very poor state of preservation, causing former restorative work to fail, we may expect the same treatment and results for our own work.

While a prosthetic appliance may be an adjunct to orthodontic treatment, it is equally true that orthodontic treatment should aid more frequently prosthetic procedures. We have seen many cases where the change in the position and relationship of one or two teeth only, has enabled the prosthetist to produce a more efficient and serviceable appliance. The rotating of malposed teeth into their correct position very frequently enables the operator to place crowns and bridges without resorting to pulp devitalization.

### Oral Abnormalities

It is well to verify any oral abnormalities which may exist. Many a well placed and beautifully constructed bridge has failed because an infected sinus or the incipient stages of a malignant tumour were not recognized. In such instances a bridge restoration may prove just the needed irritation to change a benign growth to one of malignancy. It is suggested that we examine thoroughly any bony prominences which may persist following extraction. If this is not done, these may later become a source of irritation and trouble, and their removal at a later date may result in a loss of the aesthetic qualities of the restoration. In those cases where the immediate replacement type of bridge is contemplated, extreme care must be observed in the extraction of teeth so that the labial plate of alveolar bone is not injured or destroyed during the extraction; also that no unnecessary damage or trauma is inflicted upon the investing tissues. A disregard of these precautions will result later on in the destruction of the aesthetic qualities of the bridge.

### General Health Problems

Since the success or failure of a fixed bridge is dependent upon the vitality of

the peridental tissues, and since the health of the peridental tissues depends in a large measure upon the general health of the patient, it is very evident that the health of one is reflected in that of the other. Thus, a diabetic, tuberculous, or anaemic patient is not a well person; nor can we expect the tissue reactions of such patients to be favourable. Since the placement of a fixed bridge imposes an additional load upon the sustaining tissues of the abutment teeth, it is unwise to impose such handicaps upon sick patients. Therefore, it is a prerequisite that general systemic disturbances should first be corrected before expecting any degree of success with prosthetic appliances. If we disregard these physical conditions, the best made mechanical appliance will ultimately fail.

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# *The Manipulation of Amalgam* *

by F. J. VINER, D.D.S., F.A.C.D., Omaha, Nebraska

THE manipulation of amalgam comes within the scope of that department of our profession which we all know as operative dentistry. But what, may I ask, has happened and is happening to this branch of our service? One would think that our greatest concern was that of saving teeth. The great men in our profession had that idea in mind, but today, the order seems to be reversed:—Getting them out and false ones in. There seems to be a tendency for the profession to relegate operative dentistry to the background. Have you noticed, during the past few years, the increasing tendency to bring prosthodontia, exodontia, periodontia and even orthodontia to the front? Look through your journals and see just how little space is devoted to operations on teeth and how much to other departments of our profession. We find textbooks appearing on full dentures, partial dentures, exodontia, oral surgery, oral diagnosis and treatment planning; all good ones. Please find a good one on operative dentistry. I have looked for a number of years.

Have you examined the programs of the dental societies lately? The great majority devote more time to the removal and replacement of teeth than to preserving them. Only this year have we seen a slight change in the balance wheel.

Through the knowledge which we possess and when this knowledge is properly used, it is quite safe to say that dental disease and by that I refer to dental caries, with our present-day knowledge of operative and preventive procedure, can, in most instances, be quite well controlled. Most of our patients could retain their natural teeth in a serviceable condition through the entire span of life. It is indeed a sad commentary on the present state of dental practice, when we consider the large number of people who are forced to accept artificial teeth many years before their time.

We must admit that there are a great number, who through economic reasons, are denied the benefits of operative dentistry; also, we must admit that those who can afford good operative dentistry are, in many instances, not getting the service that they should. This must be due to the inability of the members of

* Read before the Western Canada Dental Society, at Winnipeg, May 31, 1939.

the profession to render efficient service, or to the carelessness or indifference on the part of many of them. This condition must be remedied.

Operative dentistry is the very backbone of our profession and upon this rock lies the most important service that we can give to humanity, prevention of dental disease. Too many of our fillings are failing and filling a carious cavity is the only method known to cure that disease and preserve teeth. It behoves us, as a profession to wake up and give to our patient the service that he can justifiably expect.

With this short plea for more consideration to this branch of our profession and a better application of operative procedures may we get on with the subject at hand.

We consider that amalgam is second only to gold foil, in tooth preserving properties. If the colour were better we might even shade that second a little. The material itself is not only inexpensive, but also its use, when thoroughly mastered, is much less time consuming than any of the other good filling materials. For this reason it can be made available to a greater number of patients. Amalgam is popularly regarded as a cheap material in every sense of the word by both the public and the members of the profession. It deserves this reputation, but not through the fault of the material itself. It is the manner in which it has been used that is at fault. While it is true that amalgam restorations can be made more economically than almost any other kind, these statements must not be construed to mean that we can lay down on the job a little and slip by with a mediocre technique, charge the patient a little less, and get by. If such an attitude is taken everything gained is lost. We must consider the value of the service to the patient; after all our profession is giving a health service of the highest type. Was it not Charles Mayo, who a few years ago said that, "The next step in preventive medicine must be made by the dental profession"; a challenge thrown into our teeth which has not been met as it should?

One might well ask what has caused this great renewed interest in amalgam for filling teeth. It may be that economic conditions played a great part. Whoever heard very much about or paid very much attention to amalgam, prior to 1930? In 1934, the American Dental Association came forward with its rigid specifications for an alloy and ears and eyes began to perk up, even my own. I believe that George Hollenback, of Los Angeles, played no little part in the picture. To him and to Dr. Charles Woodbury, of Council Bluffs, Iowa, real professional gentlemen, I am greatly indebted for much of my information.

### Rubber Dam

Before considering the preparation of the cavity, I should like to emphasize briefly one important point in the operative procedure that has been sadly neglected and that is the use of the rubber dam. It is used, far too little and I cannot see how we can hope for the results we expect, in any operation, if we continue to regard its use in the future as we have in the past. The surgeon, when he operates, must have a clean, clear field because he must be able to see what he is doing at all times. True, not always does the life of the patient depend upon it, notwithstanding, his field is clean and clear. In operations upon the teeth how can we hope to have a clean, clear field without the use of the rubber dam? Are we not performing an operation? We must consider the area within which we work and that area is not the wide open spaces. If the rubber dam is not adjusted, no matter what care we use, how much the cavity is washed or what it is washed

with, there is a film of mucous that cannot be gotten off and that will lie between the filling and the cavity wall. There is no way to get rid of this film, once the cavity is wet with it, except to clean the walls and margins mechanically by instrumentation. No amalgam can be made proof against the invasion of bacteria where this film is present. We must not fail in this first concept of operative dentistry. Let us become more dam conscious and use it.

### Cavity Preparation

Now that we have the rubber dam adjusted, the next consideration is the cavity itself. Time does not permit, nor would you care to listen to any long discourse on cavity preparation. You are all so well grounded on Black's cavity preparation that it would be useless to spend very much time on it. Suffice it to say that if we but follow in the steps of that great preceptor we cannot go wrong. There are but a few minor changes that should be considered due to the physical characteristics of amalgam. Because of its brittleness and lack of edge strength, the cavities must be designed to overcome these faults.

The class 2 cavity as prepared for amalgam, permits the filling material to form nearly a right angle at the margins and gives it the strength to withstand occlusal strain.

When preparing cavities in lower teeth we must always bear in mind that they usually incline toward the lingual slightly and hence we must consider the direction of inclination of the enamel rods for the margins.

The proximal view of a three surface cavity prepared in an upper bicuspid shows the very definite outline and resistance form designed to give not only proper extension, but also the maximum resistance to masticatory stress, after Hollenback. There is one friendly difference that we have in the preparation ot cavities. That is the slight inclination of the gingival wall toward the axial wall, in class 2 cavities. When we incline this wall toward the axial we may leave too many short ends of enamel rods that will in time fall out, a precept of G. V. Black, to keep all angles square. I feel that we must enlarge our cavities slightly in certain places for the insertion of amalgam, but we must keep square with the tooth.

Occasionally in an upper molar the transverse ridge is not undermined and so we do not cut across it in preparing a mesial and distal cavity. We find in many upper molars also that the lingual groove is involved and must be included in the cavity. At times the mesio lingual cusp has been undermined and must be included in the cavity. The bevel toward the pulpal wall, in this case, should be a little greater for additional strength. We often find that the mesio buccal cusp has been undermined and must be removed.

I feel that one great fault of our profession is the fact that a large majority do not try to approach perfection through work, reading and other mediums. Let the other fellow do the work and perhaps we may reap some benefit. If we don't we can always blame a sorry condition on to something or someone.

### The Matrix

The cavity prepared, the next procedure of operation is the application of a matrix to all cavities not having four surrounding walls. Far too little consideration is given this important step with a consequent endangering of the tissues surrounding the tooth. Very little attention is paid to that important point, contact. When we slight this important point the patient will soon be back to see you again, if not you then the periodontist or the exodontist. The prepared matrix and mechanical holder can be used if proper care is taken in adjusting,

however, we have found that the matrix made for each individual operation produces the best results and takes so little time. This matrix may be of copper or steel. For the past few years we have used a stainless steel matrix 1/2000 inch thick. The matrix is ligated into position using wide waxed tape and wedged from the lingual, with a small wooden wedge, so as to bring the gingival portion of the matrix in close contact with the tooth. This has proved very satisfactory in our hands. It is not so much the kind used, but the use of some kind which is the thing to be considered.

### The Mix

With the matrix adjusted for compound cavities we are now ready to make the mix. We now come to the most important steps in the manipulation that the operator has under his control. Of first importance is a mortar and pestle of proper size and shape. (We have tried all of the mechanical amalgamators and found them wanting.) The mortar should have deep straight sides, curved at the bottom. The pestle should fit the bottom of the mortar accurately and also about one quarter of the side. For our use we have taken the S. S. White, No. 8, mortar and pestle, ground them in together with No. 220 carborundum powder to insure as close a fit between the two as possible. This will also give the slightly roughened surface so desirable for good amalgamation. Shallow mortars and poorly fitted pestles prohibit complete amalgamation and should not be used. This simple detail has been given but little attention; it does have an important bearing on the mixing.

Of equal importance is the alloy-mercury ratio to secure sufficient plasticity. This is one point on which the manufacturer does not give complete instructions. The ratio of alloy to mercury is usually expressed as: 5 to 7, 5 to 8, 7 to 9, etc. We have found the ratio of 5 to 8 for most alloys works well in our hands. It would be well to make a mix or two of each supply of alloy purchased, using the directions specified, if they are given at all, to see if the amount of mercury used will produce sufficient plasticity for your use and for the amount of time it will take you to make the filling. Alloys may be had in two grades, quick and medium setting. There is no need, at this time, to go into what makes them that way. The question involves a long discussion on chemical composition and annealing. We can well leave that to the metallurgist and chemist. Perhaps for the average operator, the medium set would be preferable, so as to be assured ample time for making the filling. Perhaps the ratios as given by the manufacturer will not produce enough plasticity for your use. The addition of more mercury will do no great harm to the resultant mix, but it should be added in definite proportions, so that we have some idea of what proportion works best for us. To add mercury or alloy in a haphazard way smacks of sloppiness and is very apt to breed short cuts and carelessness in other steps of the technique. It is just as easy and takes no more time, to have an orderly procedure throughout the entire technique.

When we weigh out our proportions of alloy and mercury for the restoration, let us be sure that we will have an over sufficiency for our cavity. There is no sense in being skimpy here; the material is cheap. Ten grains of alloy for the average class 1 cavity and twenty to twenty-five for the average class 2, is none too much and then we may be assured of plenty of excess to work with.

In order that we may not have amalgamation in the completed restoration and have expansion and contraction that we cannot control, the amalgamation must be made complete in the mortar.

(What happens when the mix is made.) Here again a little experimentation on the part of the operator should prove invaluable. The less time one takes for mixing, the better will be the result. With the proper amounts of alloy and mercury placed in the mortar, the mixing is started. Only enough pressure should be used on the pestle, to insure a complete amalgamation. This may take from 45 seconds to 2 minutes, depending on the alloy used. We have found recently, using three different brands of alloy, that complete amalgamation could be obtained in about 45 seconds, using approximately one to two pounds pressure on the pestle, which is turned at about 130 revolutions per minute. Heavy pressures may shorten the time of the mix, but when heavy pressures are used, heat is generated, causing over annealing of the alloy, the result being an excessive contraction that cannot be controlled. The time taken to complete the mix should be noted carefully, as too long a trituration has the same effect as heavy pressure. The mixing time varies greatly in the hands of different operators, depending on the brand and the cut of the alloy and for that reason, the time should be noted for each brand or batch of alloy that you are using. The resultant mix should be plastic enough, to be spread on the palm of the hand with a very light finger pressure and should have the feel of, one might say, fine velvet. We do not advocate the palm of the hand and the finger for the so-called further mulling. Most palms are more or less moist and perspiration contains certain acids, which when incorporated in the mix, will have an effect on the quality of the amalgam we are trying to produce. (Might also add about the surface of the skin.) The idea is to keep the mix as free from contamination as possible. This plastic mix will give even the slow operator ample time to make the restoration and we must have this consistency of mix in order to secure complete adaptation to the cavity walls. The mix will have a considerable excess of mercury until adaptation is secured, after which the excess mercury can be expressed by an orderly and forcible packing, together with compression. If it is necessary to remove some of the excess mercury, before placing the amalgam in the cavity, we have found the little cloth napkin, superior to the chamois skin. The chamois becomes dirty within a short time and usually there are some small pieces of amalgam adhering to it from some previous operation, which may be detrimental to our job.

### Instruments

The instruments chosen should include a rather large one and two or three small ones, not to exceed one millimeter by two millimeters in size. A small ball burnisher should also be included in the selection for reasons to be explained later. We prefer the diamond, or sharply ovoid shaped instrument, as this shape enables the operator to reach all angles of the cavity conveniently.

### Insertion of Amalgam

The amalgam should be inserted into the cavity in an orderly manner. We have seen so many of these thumb thrust fillings that at times we shudder to even think of them. The plastic amalgam should be divided into several small portions, the smaller the cavity the smaller the portion. The portions of amalgam are picked up with a pair of cotton pliers and placed in position in the cavity. The first attempts at adaptation should be somewhat of a tamping effect to work the amalgam against the cavity walls and to fill in all voids. All that remains now is to compress it forcibly, so as to remove the excess mercury and obtain firm contact with the cavity walls. Here again,

we must follow a definite procedure and unless we carry out this step properly, we will have a weak, leaky, unstable filling, with excessive expansion. The pressure, which should be between ten and fifteen pounds, for the larger faced condensers, (for the smaller faced ones it can be proportionately less, but never under eight pounds), is started in the centre of the cavity and the instrument stepped carefully to the cavity walls, wedging the amalgam against these walls. When packing, the pressure should be maintained momentarily, so as to give the excess mercury time to flow out of the mass. The expressed mercury should be removed from the cavity, as much as possible, before another piece is added. A small round burnisher may now be used, as a further precaution, for close adaptation to the cavity walls, however the pressure used with this instrument should be very light, or, we may have a further amalgamation; something, that we do not want.

The cavity must be filled in its entirety, in the same orderly manner, or the results will be far short of what is to be expected. When the filling has been practically completed, there will be an excess of mercury on the surface. This can be removed, by taking the mass of amalgam left over (and there always should be some), quickly squeezing out all of the mercury possible through the little napkin and applying this dry mass to the surface of the restoration, being sure that the margins are all well covered and finally condensing the surface with a large-faced condenser.

If our amalgam has been well condensed and care taken to remove the excess mercury, the setting will be quite rapid and in about five minutes, the matrix can be removed and the restoration carved to tooth form.

By the time the occlusal and proximal surfaces have been carved, the amalgam will be quite hard. The rubber dam can now be removed, the restoration spotted for occlusion and the patient dismissed. If care has been taken with the carving, only a short time is necessary for the final polish.

Needless to say, amalgam restorations should have the same attention as to polishing and finishing, as any other type of restoration. We find that far better results can be obtained if the filling is left to harden for from 24 to 48 hours, before final finish. We see far too many amalgam fillings that bear evidence of having been wiped off with a bit of cotton, as a carving for occlusal form and no attempt made to carve the proximal surface, or to remove the excess from the gingival.

In conclusion, we must admit, that there are un-numbered good amalgam fillings in existence today, but, when some authorities assert, that at least 85% of all amalgam fillings show faults in varying degrees, that could have been avoided through proper manipulation and when everyone in practice has seen "too many faulty fillings" (they tell us so), there must be room for improvement.

We are all interested in better dentistry and I am holding to better operative dentistry. Better dentistry must result in better health for our patients. Better dentistry will result in fewer extractions and less expense for replacements. Better dentistry will result in less periodontal disturbances. Better dentistry is the most profitable form of dentistry, both for the operator and for whoever pays the bill.

The dentist, who makes a good dental filling, performs one of the most difficult operations known to surgery. His monetary reward is seldom commensurate with the difficulty encountered or the service rendered; but we, as a profession, are giving to the people a health service which cannot always be measured in dollars and cents.

# Practice Management

## Ethics

SECTION seven of the American Dental Association Code of Ethics reads as follows:

"One dentist should not disparage the services of another to patients. Criticism of operations which are apparently defective may be unjust through lack of knowledge of the conditions under which they were performed. However, the welfare of the patient is paramount to every other consideration and should be conserved to the utmost of the practitioner's ability. If he finds indisputable evidence that a patient is suffering from previous faulty treatment, it is his duty to institute correct treatment at once, doing it with as little comment as possible and in such a manner as to avoid reflection on his predecessor."

The dentist ought to avoid disparaging statements. He should not attempt to detract from the common good with aspersion or implication. This is not meant to suggest that we, like Pollyanna, go about our affairs flattering and saying, "How gorgeous, how intriguing!" No person enjoys criticism. Surely there is always something fine and good to be seen in everyone.

Someone aptly stated that there exist two worlds, one which is materialistic and external and the other which has its foundation deeply rooted in our hearts. Note how brilliantly people respond when we strike that innermost chord with an emphasis of sincerity. But the reverse is true when unjust criticism is levelled against us.

There is a story told in the Talmud concerning a noted Rabbi who had asked his son to write an important legal document for him. Upon receiving it, he discovered that there were many mistakes made in the transcript. He called his son and asked if he had written it; whereupon the young man said, "No, father, it was written by one of the other scribes." The wise man then admonished his son for having incriminated another person which he claimed was unnecessary. Had the son merely answered in the negative he would not have intimated the incompetence which his information portrayed.—*From the Dentist and His Control of Practice, by S. Joseph Bregstein.*

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*Of all phrases commonly used for purposes of consolation and cheer, "Don't worry!" must surely be the most over-repeated. How easy it is to say to a man up against it "Don't worry, old chap—cheer up!" The ease with which the advice slips out is stamped with its own value: to say "Don't worry" merely, in nine cases out of ten, rubs salt into the wound.*

*Of more use to a man than the phrase "Don't worry" is a searching out of the root-cause, a bringing to light of the facts, and a square, courageous review of them . . . . The only cure for worry is the surgeon's cure: it is of no use to attempt to repress it, or temporarily suppress it: it must be knifed clean out, inspected, analysed. —Modern Salesmanship, per Medley.*

# Problems in Practice

Our readers are invited to send in their problems in practice to the editorial office, 314 Somerset Building, Winnipeg. These questions will be submitted to prominent dental authorities and their replies sent to the one asking the question. The more interesting subjects will be published in this section of the Journal over the author's name unless otherwise requested.

## *Orthodontic Treatment*

PROBLEM: Under what conditions would a pediatrician (or physician) advise against orthodontic treatment?

ANSWER: *In the discussion at a combined dental and pediatric meeting held at the Academy of Medicine, Toronto, the following answer was given to the above question:—*

There are very few cases where a pediatrician would veto orthodontic treatment when suggested by a competent orthodontist. Most things which would contra-indicate treatment would be obvious to both the orthodontist and the pediatrician, for instance:

(a) Those minor degrees of malocclusion that will probably be cured through the simple factor of growth and development through age.

(b) Oral or gingival sepsis which would require correction before orthodontic work is begun.

(c) Those cases where marked hyperplasia of tonsils and adenoid areas have produced partial nasal obstruction with mouth breathing, and consequent deformity of the dental arches. In such cases tonsils and adenoids should be removed and remedial muscular exercises be instituted before beginning orthodontic work.

(d) Those children who are habitual thumb-suckers would benefit by treatment of the habit before orthodontic work is initiated.

There are, however, two reasons which might be more apparent to the pediatrician than to the orthodontist.

(a) The rather emotional, highly strung, so-called nervous child who suffers at times from tics, sleeplessness, or other evidence of disturbed behaviour, usually reacts badly to any form of irritation no matter how slight. In general these children are made much worse by any orthodontic work, no matter how carefully and painlessly that work is done.

Successful orthodontic work requires adequate growth and development of the body and bony structures, to produce efficient results. The child's general condition should be satisfactory before orthodontic work is begun, and any focal infection or chronic disease which is lowering his efficiency and retarding his growth and development, should be corrected before orthodontic work is begun. In many cases this is obvious to the pediatrician alone and constitutes an extremely valid reason for advising against orthodontic appliances.

In closing, I should like to state that the child who does not wish orthodontic work done because of the appearance of the bands and braces, will in later life be the child who is keenly sensitive of his or her irregular or unattractive teeth. Consequently, I believe that orthodontic work should be carried out on such children regardless of their wishes, and even though this work may produce for a short time, some disturbances in conduct or behaviour problems.—*Wm. A. Hawke, M.D., Toronto.*

# The Forum

## • DENTISTRY IN FINLAND

by F. W. BUZZA, L.D.S., England
(*Condensed from paper in D. Mag. and Oral Topics*)

I BEGAN my dental tour by first inspecting the Dental Hospital in Helsinki, the capital of Finland.

In Finland, if a hospital is needed, the state or town builds it and staffs it. The hospitals and staffs are consequently good. They are not in debt, and if something new comes along the hospital gets it. Everybody goes to the hospital, and pays according to his means.

The Helsinki Dental Hospital is new. It seemed to have everything I have ever seen in a dental hospital, and much besides. For instance, I have never seen sixty chairs for conservative work in one room before. There are two rooms like this. Only foot engines were, however, installed. In an extraction room there were six chairs being used at the same time. All extractions were done by local anaesthetic, and I was informed that very little gas was used in Finland. In another room I saw something which I had never seen before. Over the dental chair was fixed a huge inverted saucer-shaped mirror. It must have been ten feet across. There was a powerful electric-light bulb in the middle of it, so that wherever the dentist stood or whatever he did with his hands there was no shadow. At the top of the mirror was a tube, about a foot in diameter and ten feet long. This was taken through the wall into the next room, which was a lecture room. Here the image in the mirror was magnified and thrown on to a screen so that everything the surgeon did could be seen quite easily and comfortably. There was also a microphone attached to the mirror so that the surgeon could explain what he was doing, and this was broadcast into the next room with the picture.

The student body consisted of 120 women and about half a dozen men.

The dental course takes seven years—two years of this being in the dental hospital. A candidate for a Doctorate of Dentistry has to write a book, read it in public, and be prepared to argue about it with a man appointed by the University for that purpose. It is not surprising to learn, therefore, that out of 700 dentists in the country only seven can call themselves Doctors of Dentistry.

Advertising is not allowed. But in every hotel and every chemist's shop you may obtain a little booklet, in which are printed the name and address of every doctor and dentist in that particular town or area. In it, too, are stated the hours of attendance at the surgery, and the dates on which the doctor or dentist will be away on holiday.

Fees are very low, for Finland is a cheap country in which to live. One man, quite well-to-do, showed me a full upper denture for which he had paid the equivalent of $7.20.

All school dentists are allowed to carry on private practice, since the schools are closed for a month at Christmas, and three months in the summer, and so it is a sensible thing that, when a dentist is not working in the schools he should be allowed to practise privately.

In Finland the position of a school dentist is looked upon as being, if anything, rather better than that of the man in private practice.

A senior school dentist earns about

$1250 a year, and an assistant about $1100. This may seem small, but we have to remember that this is for eight months a year, and that the cost of living is considerably lower than in England. The hours of work are from 8 a.m. till 2 p.m.—that is a six-hour day.

Ninety-eight per cent of children inspected need treatment, and practically 98 per cent receive it. No charge is made for treatment. Attendance is quite voluntary, and no pressure of any kind is exercised, but the number of refusals is practically nil. In Helsinki there are from 12,000 to 15,000 children. For these there are nine dentists, i.e., one dentist for 1,500 children, and I was told there ought to be, and soon will be, one dentist for 1,000 children.

There is no treatment given to the preschool child. Treatment is not given until the age of 7, when the child first enters school. All treatment is free, and there are no refusals. No treatment at all is given to secondary-school children. At the age of 14, when the child leaves school, treatment stops, and as there is no scheme equivalent to the British National Health Insurance, it seems to me that all this treatment may be largely wasted. Finland is, however, a young and progressive country, and I have no doubt at all that in years to come its dental and medical schemes will be models to other countries.

## • ALLEGED CLINICAL IMPORTANCE OF BUFFERED LOCAL ANAESTHETIC SOLUTIONS

by M. L. TAINTER, M.D.; A. H. THRONDSON, D.D.S., and S. M. MOOSE, D.D.S., F.A.C.D., San Francisco, Calif.

(*Conclusion of paper published in J.A.D.A., June, 1939*)

A SERIES of 579 injections of neutral buffered and acid unbuffered local anaesthetic solutions of procaine hydrochloride were made under conditions of blind testing in which the operators did not know the composition of the solutions that they were using. Their observations of the important factors in the local anaesthesia were tabulated and computed independently to determine, if possible, significant differences between the two solutions.

There were practically no differences between the two solutions which would indicate a probable advantage of one over the other. The volumes required, the speed of onset and duration of anaesthesia and the effects on the circulation and respiration were all practically identical. Similarly, there was no definite difference in the number of cases in which complete anaesthesia was secured, nor in the cases in which the injection of the anaesthetic solution caused pain. The amount of bleeding was also not definitely affected by the choice of solution.

Such side actions as nervousness, perspiration, tremors and fainting occurred with about equal frequency with the two solutions. If anything, there was a very slight difference in favour of the unbuffered solution.

Late effects of the local anaesthetic injections observed on subsequent days also showed no significant difference in favour of the buffered solution. There was more swelling at the site of the injection, trismus and dry socket after injection of the buffered solution, but there were less painful injection sites.

The operators themselves recorded satisfaction with the local anaesthesia of both solutions and indicated complete satisfaction in 91 per cent of cases when the acid unbuffered solution was used, but in only 81.9 per cent of those injected with the neutral buffered solution.

Accordingly, buffering local anaesthetic solutions to about the hydrogen ion concentration of the tissues does not result in a clearly demonstrable and unmistakable improvement in effectiveness

and clinical desirability of the anaesthetic solution. Therefore, there is no good reason why buffered solutions should be used, in view of the greater difficulties of manufacture and of distribution. The tissues are so well buffered that injections of the small quantities of local anaesthetic solutions currently used in dentistry are not sufficient to modify the local pH to an extent great enough to produce any clinically significant alteration in the local or systemic responses.

### • MEDICAL SERVICE THE LEAST DEFICIENCY OF THE UNDERPRIVILEGED

DR. S. S. GOLDWATER, Commissioner of Hospitals of the City of New York, in the course of his recent testimony before the New York State Temporary Commission to Formulate a Health Program, contributed a striking thought which proponents of political medicine seem not to have taken into much, if any, account. Medical service in his own community, he said, is "more readily accessible to the underprivileged . . . than proper shelter, health-sustaining food, suitable clothing and facilities for recreation." The thought could not be better put, and enables us to survey this matter of political medicine from a highly edifying angle.—*Arthur C. Jacobson, D.D.S., Editor, Medical Times, March,* 1939.

### • SUCCESS OF ORGANIZED PUBLICITY

by GEORGE GILBERT

LIFE Insurance is the most sensitive plant in the financial garden and most easily injured by adverse publicity. Yet life insurance in Canada over a lengthy period has held a secure place in the confidence of the public, little, if any, affected by the attacks which have been made from time to time against particular companies or the business in general.

One of the factors which have contributed in no small measure to the maintenance of this favourable public opinion has been the steady campaign of educational publicity carried on by the associated life companies during the past eighteen years by means of institutional advertising to spread a better knowledge of the service they render in the community.—SATURDAY NIGHT.

EDITOR'S NOTE: *When will the dental profession begin to co-operate in the interests of the profession, and of dental public health, as the Life Insurance Companies have been doing for many years?*

### • A PHYSICIAN'S RULES AND ADVICE FOR RETAINING SAVINGS

by P. M. MILLER, M.D., Chicago, Illinois

(1) Learn to disregard interest and profit. You will be lucky if you can retain your principal.

(2) Advice of bankers and bond salesmen is usually based on selfish motives.

(3) The higher the interest rate, the greater the risk.

(4) You are not smart enough to play the market; even the experts lose.

(5) A physician's first investment should be in a home.

(6) Proper life insurance, with some annuity provisions, is a good second choice.

(7) Put any surplus you may have into government securities, even if the interest is very small. Let the *other* suckers reach for high interest rates. Nothing equals these bonds for security and safety.

(8) Be old fashioned enough to be thrifty; provide for the rainy day; and you will never have to be a parasite living on the community.—*Medical Economics, April, 1939.*

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*A pleasing telephone voice—what does it mean? It means smiling into people's ears.—F. H. Wilkinson.*

## • BETTER NUTRITION AS A HEALTH MEASURE

by E. V. McCOLLUM, Johns Hopkins University, Baltimore.

*(Excerpts from address broadcast from Ottawa and published in the Canadian Medical Association Journal, April, 1939.)*

THE adequate diet for the promotion of health is made up of a number of "little things." From the proteins of our foods we derive nine simple substances called amino acids, none of which we can do without. We must have at least thirteen inorganic or mineral elements: sodium, potassium, calcium, magnesium, chlorine, iodine, phosphorus, sulphur, iron, copper, manganese, zinc, and cobalt. We must have adequate amounts of the seven vitamins, A, $B_1$, C. D, E, riboflavin, and nicotinic acid. Probably several others remain to be discovered. We require energy from proteins, fats, and carbohydrates. If we have in our daily diet all of these "little things" we have provided for adequate nutrition.

Most of our common foods are deficient in some of the essential food elements. We do not condemn any of them because of this, because the keynote to success in nutrition is the proper combination of foods so that what is lacking in one will be supplied by another. To provide an optimum diet, observe the following rules: (1) One pint of milk daily for each adult, or more if desired. Thirty ounces of milk for each child under 12 years. (2) Four servings of vegetables; two of them raw, as in salads, and one green. (3) Two servings of fruit, raw or cooked. (4) One serving of meat, fish, game, poultry, eggs or cheese. (5) One serving of whole grain cereal. (6) About 400 international units of vitamin D, derived from any fish liver oil, viosterol, or any medically approved concentrate.

This diet provides an abundance of all the mineral salts except iodine, which should be obtained through the use of iodized salt.

There are three ways in which tooth structure may be influenced by diet. The organ which forms the enamel is very dependent for its health and function on vitamin A. If a deficiency of this vitamin occurs in the infant or child whose teeth are still forming, the enamel will contain pits and fissures, which are potential food traps, in which particles of carbohydrate food lodge and ferment, with the formation of acids which dissolve away the enamel. If the diet contains an abundance of vitamin A but not enough vitamin D the content of phosphate in the blood will fall, as it does in rickets, to so low a level that calcium phosphate, the substance of enamel, cannot be laid down, and poor enamel will result from this deficiency. The dentine-forming organ is especially dependent upon an abundance of vitamin C. If an infant or child whose teeth are forming does not get enough of this factor the dentine of the teeth will be badly formed and the future health of the tooth will be impaired.

In summary, let me emphasize that through diet we may accomplish:

1. Improvement of the health of the mucous membranes, making them more effective as barriers against the entrance of infective agents, with consequent reduction in the incidence and severity of respiratory diseases.

2. Improvement in the structure of the teeth, and reduction in their liability to decay and subsequent infection; relief in great measure from secondary infections of the joints, kidneys and heart.

3. Safeguarding the health of the nervous system, especially as respects neuritis and the secondary effects of nerve injury, such as heart and digestive disorders and disease of the digestive tract.

4. Protection of the blood vessels

against injury caused by bacterial poisons acting upon them when the body's reserves of vitamin C are low.

About twenty years ago I coined the slogan: "Eat what you want, after you have eaten what you should." Eat every day the necessary amounts of the protective foods, and after that eat whatever your appetite calls for.

### • SMALL TOWN PRACTICE

by A SCOTTISH DENTAL SURGEON

TO ME one of the most important of all advantages of a small town practice, such as mine, is the ability to lead one's private life absolutely as desired. Lock-up premises makes for very little disturbance of one's leisure hours. The vast majority of my patients come to me because they think they will be well served, and not because I have met them socially, or because they feel that they just have to support a member of their church, club or association. I am able, therefore, to choose the recreations I like, instead of persuading myself to like those in which I shall most probably make important contacts that will feed my practice; and I select my friends solely because I enjoy their company, and not for any financial gain I may hope to derive from their friendship.—*Dental Gazette, per Dental Items of Interest.*

### • NUTRITION

SURVEYS of food habits, studies of food consumption figures and personal observation all point to some general improvement in food selection in the last decade but the average diet is still far below the nutritive standard of what is believed to be desirable. If the diet of those suffering from caries is below the optimum in minerals and vitamins, several of which have been shown to be of effect on teeth, and in addition is high in sugars, such a situation offers two factors which should be adjusted. Both dentists and physicians, but especially dentists, occupy key positions in overcoming the natural inertia of individuals to improve their selection of food.—*Summary of paper by Lillian B. Storms, Ph.D., in Jour. of Michigan State D. Soc., April,* 1939.

### • CHRONIC SUPPURATIVE PERICEMENTITIS

CHRONIC suppurative pericementitis is the term applied to a chronic infection of the supporting structures of the teeth, which results in the gradual destruction of the peridental membrane and the adjacent bone of the alveolar process, leaving a pocket between the root and the gum tissue.

Notwithstanding the fact that reattachments of the peridental membrane to the cementum may possibly occur over very limited regions, for all practical purposes, the key to the treatment of suppurative pericementitis is in the statement that suppurative detachments of the peridental membrane are permanent detachments.—*Excerpt from Volume IV, G. V. Black's work on Operative Dentistry.*

### • THE WAY

(From The Transmitter)

THE way to have teeth with which you can crack nuts is to refrain from cracking nuts with your teeth.

The way to have a stomach in which you can put practically any kind of food is to refrain from putting practically any kind of food into your stomach.

The way to have eyes with which you can read fine print in a poor light is to refrain from reading fine print in a poor light.

The way to have friends who would give you the shirt off their respective backs is to refrain from asking them for their shirts.

The way to make friends with a traffic cop so that he will overlook slight infractions of the traffic rules is to avoid slight infractions of the traffic rules.

"Do you mind if Calvin watches? He's going to be a dentist when he grows up."

*By courtesy of the Chicago Tribune.*

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## *Conventions*

MIDWINTER MEETING OF THE CHICAGO DENTAL SOCIETY, HOTEL STEVENS, CHICAGO, ILLINOIS, FEBRUARY 12-15, 1940.

MINNESOTA DENTAL ASSOCIATION, ST. PAUL, MINNESOTA, FEBRUARY 27-29, 1940.

THE NATIONAL DENTAL CENTENARY CELEBRATION, BALTIMORE, MD., MARCH 18-20, 1940.

AMERICAN ACADEMY OF PERIODONTOLOGY, CLEVELAND, OHIO, SEPTEMBER 5-7, 1940.

AMERICAN DENTAL ASSOCIATION, CLEVELAND, OHIO, SEPTEMBER 9-13, 1940.

*Editor*—M. H. GARVIN, Winnipeg

A S S O C I A T E  E D I T O R S

PRINCE EDWARD ISLAND

*D. T. Waye, Charlottetown*

NOVA SCOTIA

*S. G. Ritchie, Halifax*

NEW BRUNSWICK

*J. F. Edgecombe, Saint John*

QUEBEC

*F. W. Saunders, Montreal*

ONTARIO

*T. R. Marshall, Toronto*

MANITOBA

*J. F. Morrison, Winnipeg*

SASKATCHEWAN

*F. C. Harwood, Moose Jaw*

ALBERTA

*John Clay, Calgary*

BRITISH COLUMBIA

*J. S. Bricker, Vancouver*

# *The Easy Way Out*

Herbert N. Casson in "Efficiency Magazine" states: "In millions of small homes there are people who are compelled to economize. In plenty of small businesses, too, the owners are thinking mainly of economy. Their main method of making more profit is to reduce expenses in some way."

"Now what I want to point out is this — it is easier to economize than it is to make an effort to earn more money. Most people do what is easiest They do without what they need, instead of making a special effort to earn the extra money to buy it."

"There are a thousand ways to make a little extra money. Almost any business or any family can make a bit more, by thinking of money-making instead of economy."

How true these statements are in regard to the practice of dentistry. When our receipts are low, when practice seems to be falling away our first thought is how can we economize. To economize at home, and in all our relationships outside of the office may be praiseworthy under such conditions, but to think chiefly of economy in the conduct of our practice is fatal. Our

bank account being low we decide to manage with one assistant instead of two or perchance to do without an assistant altogether. We then leave the telephone receiver down while we are too busy to answer, and at noon the office is closed. Of course we can hardly worry about the urgent telephone calls which never reach us. We wear our gowns a couple of days instead of one day or less, even though they are a bit crushed and soiled. We simply cannot afford to buy that new equipment and redecorate the office as we had planned since the condition of the practice will not warrant it. As Mr. Casson points out, most of us do what is easiest. We try to economize instead of making a special effort to build up the practice, and so make economy unnecessary, which of course is the hard way.

To those whom I have just described, and there are many in these days, unfortunately, let me urge that everything should be kept up to date in your office regardless of all else, that nothing should be overlooked to make yourself and your office attractive to your patients. Endeavour to make the dental story appealing to every patient who sits in your chair. Do not take for granted that Mr. X. cannot afford this service or that service but explain the several different ways of caring for his mouth and you will be surprised at how many of these patients will subscribe readily to the suggested reconstruction program. If you do not know how to accomplish this, attend your dental society meetings, by all means read the dental literature, and if still in doubt consult your brother practitioner. In most instances he will gladly assist you.

Then again there is the problem of waste, particularly in mixing a larger amount of filling material than is required, or failure to collect gold dust while working with this precious metal, and in many other ways. It is easier to be careless than to be careful. Herbert N. Casson, in Letter-Mag, states "Real economy is the exact opposite of mere saving and stinting and doing without. It means the prevention of waste, the conservation of all valuable energies and materials and the abolition of muddle and botch."

It has been a dream of the writer for a long time that some day our Canadian Dental Association will be so thoroughly organized and equipped that much more can be done to help raise the general status of the practice of dentistry throughout Canada, and thus make it easier for all dentists to attain the goal for which they are striving.

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## *Correction*

In the September issue of the Journal there appeared a general news item entitled, "End of Harvard Dental School." The content of this article was obtained from sources which appeared unquestionable, but the Dean of Harvard University Dental School informs us that the statements made in this article are not correct and so we would express our very sincere regret at having published the same and would specially call our readers' attention to the general news item on Dental Education at Harvard, appearing in this issue of the Journal.

# BOOK REVIEWS

**Dental Roentgenology**—by LeRoy M. Ennis, D.D.S., Assistant Professor of Roentgenology in The Thomas W. Evans Museum and Dental Institute, School of Dentistry, University of Pennsylvania; Instructor in Dental Roentgenology in the Graduate School of Medicine, University of Pennsylvania; Lieutenant Commander, U.S. Navy Reserve. Third edition, enlarged and thoroughly revised. Octavo, 398 pages, illustrated with 789 engravings. Published by Lea & Febiger, Philadelphia, September 1939. Cloth, $6.50 net.

The first edition of this work was published in 1931, the second edition in 1936. Dental Roentgenology has become such an important branch of our service to humanity that a thorough work of this nature is very acceptable indeed. The author, after an interesting introduction to the subject, gives a description of the newer equipment now in common use. His next chapter describes roentgen-ray dermatosis with the dangers of which every operator should familiarize himself. A detailed technique, both intra-oral and extra-oral, follows, including roentgenographic examination of children.

As a proper foundation for interpretation, the author devotes over fifty pages to "Normal Anatomical Landmarks of the Teeth and Jaws as seen in the Roentgenogram." With this preparation we come to the chapter on "Dental Pathology in Relation to Roentgenology" which occupies 110 pages. Common and rare pathologic conditions are carefully shown by excellent reproductions of roentgenograms.

The author and publishers of this work are to be congratulated on its excellence. Undoubtedly it will help to advance this important branch of modern dentistry.—*Kenneth M. Johnson.*

**Periodontal Diseases, Diagnosis and Treatment,** by Arthur H. Merritt, D.D.S., M.S., F.A.C.D., F.A.A.P., President of the American Dental Association; Past President of the American College of Dentists; Past President of the American Academy of Periodontology. 205 pages. 44 illustrations. Second edition. Published 1939 by The Macmillan Company, New York. Canadian address, St. Martin's House, 70 Bond Street, Toronto, Ontario. Cloth. $3.85 in Canada.

There is no more important subject related to the practice of dentistry than that of periodontia. No dental prosthesis can endure if the supporting tissues collapse. This book is written in a concise and simple form for the busy general practitioner who is interested in the clinical rather than the scientific aspect of periodontology. The author presents a clear conception of the disease which affects the periodontal tissues and outlines how to successfully treat these diseases or better yet, how to prevent them altogether. Old material has been brought up to date and new material added. It represents the cumulative experience of the author, who has devoted his practice exclusively to periodontia for more than twenty years. The results of these years of experience are set forth in these pages and present a treatise on the subject which no man in the general practice of dentistry can afford to miss.

To those of us who have been honoured by knowing Dr. Merritt as a friend and as a sympathetic counsellor, all of his writings are received with much interest and perused with the greatest satisfaction and benefit.—*M. H. G.*

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# CORRESPONDENCE

To the Editor, The Globe and Mail,
Toronto, Ontario.

I dislike writing this letter but regret more the necessity for doing so. On page eleven of your paper of this date, there is a news item with the heading, "Yells of Pain Drown Roars of Sergeants." The article goes on further to state that dental services are being rendered to members of the Canadian Active Service Force in Military District No. 2.

No profession or group of individuals has done more for the control and prevention of pain than the members of the dental profession and any one who has received services in

a dental office in the last few years will realize the progress that has been made. Any dental operation can be accomplished with very little discomfort and, in many cases, there is no pain whatever.

The profession of dentistry desires, and believes it is in the interests of the general public, to dissociate the thought of pain from the dental office. If dental treatment were received at the indicated time, much of the dental disease which is so prevalent would not be present. The association of pain and dentistry naturally tends to keep an individual from having dental services rendered at the opportune time and he puts the matter off until, from pain or disease, he is forced to have something done.

I am sure that it was not the intention of the article to disparage the profession of dentistry but I cannot help but think that it is a perverted sense of humour which caused certain individuals to associate comedy, pain and dental services. It certainly accomplishes nothing of a constructive nature and undoubtedly brings before the public a relation which is undesirable.

I am drawing this matter to your attention on behalf of the Canadian Dental Association and hope that, after due consideration, you will see the reasonableness of the above statements.

*(Signed)* STEPHEN A. MOORE,
*President,* Canadian Dental Association.

*Oct. 25, 1939.*

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**Reply to Above Letter**

To Dr. Stephen A. Moore,
President, The Canadian Dental Association:

Acknowledging your favour of October 25, may we express our appreciation of your courtesy in writing us and the friendly, constructive spirit in which you have expressed yourself. We regret that the heading and story were of such a nature as to cause offence. The Canadian Dental Association may be assured that we will be pleased to keep in mind its thought on such matters.

*(Signed)* A. L. MACINTYRE
for E. George Smith,
*Managing Editor,*
The Globe and Mail.

October 10, 1939.

To Procter and Gamble Company,
Montreal, Quebec.

Last Friday noon I was listening to your Oxydol radio program with much interest but something occurred in the broadcast which the dentists of this continent would greatly resent if they had heard the same.

In the text of this program the doctor told the patient, Mr. Henderson, that he could cry out if it would help any as there was a dentist next door and the people were used to hearing such screams or something to that effect.

The dental profession, both of the United States and Canada, has spent thousands of dollars and very much time in bringing before the public information relative to dental health. This has been done in the interests of the general health of our citizens, many of whom are kept away from the dental office through fear.

Dentistry has developed to the point where dental operations can be performed with little or no pain and there is no need for anyone to neglect his or her health through fear. Such broadcasts as the one I have just mentioned, however, neutralize in a most effective manner much of the splendid work which has been accomplished by our profession in recent years.

Certain firms and publishers have resorted to this type of so-called humour in recent months but when the seriousness of this matter has been called to their attention they have gladly offered to co-operate with us. We sincerely hope that your Company will also agree to co-operate with us in future, in bringing the importance of mouth health to the attention of the people of the United States and Canada rather than permit anything destructive to this plan to be included in any of your splendid broadcasts.

*(Signed)* M. H. GARVIN.

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**Reply to Above Letter**

To the Editor, JOURNAL OF THE C.D.A.:

We appreciate your friendly letter of criticism, and we can assure you that it is our sincere wish to avoid bad taste in all of our radio programs.

It is difficult for the management to keep in

close touch with all of our radio programs, but we do have a department whose responsibility it is to examine all story sequences submitted by the authors with a view of eliminating anything that might be objectionable. That is, you will admit, a pretty difficult task when one considers the differences of opinion and tastes of the general public.

We have asked our radio department to make a complete investigation of the events leading up to the inclusion of the incident which you have criticized with the hope that we can prevent a recurrence.

We are glad that you have given us this opportunity to explain our position, and we hope that we may continue to enjoy your good will and patronage.

*(Signed)* THE PROCTER & GAMBLE COMPANY.
H. S. BRUTTON,
Dept. of Public Relations.

EDITOR'S NOTE—*The following is the reply to a letter sent to the Editor of Good Housekeeping, criticizing the use of a cartoon which was not in the interests of public health, or of the dental profession.*

To the Editor, Journal of the C.D.A.:

Thank you for your letter of October 23 regarding the Grace P. Smith page. Since this is a strictly humorous feature it hadn't occurred to us that anyone would take it seriously. But I can certainly see your point and I assure you that in the future we will be more careful. As a matter of fact, we intend shortly to run an article entitled "Take Care of Your Teeth," which should more than offset any misconception that may have arisen from the cartoons.

Thanks for bringing this to our attention.

*(Signed)* ARTHUR GORDON,
*Associate Editor,* Good Housekeeping.

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# NEWS FROM THE PROVINCES

*SASKATCHEWAN:*

### Army News

Dentistry is doing its patriotic duty in this as in the previous Great War, and Saskatchewan dentists are assuming their full share.

Lt.-Col. J. Ewart Wright, recently of Estevan, is officer commanding the South Saskatchewan Regiment, with headquarters in Weyburn. This Regiment, which is being actively recruited, is part of the Expeditionary Force with the Second Division, and is the first Infantry Unit to mobilize in Saskatchewan.

Lt.-Col. George L. Cameron, recently of Swift Current, is in charge of the Dental Corps in the province, which is being rapidly organized under his capable and experienced command. Many other Saskatchewan dentists are officers in various Units, as well as the Dental Corps, but are awaiting official gazetting.

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### Dental Lectures

Arrangements have been completed with the Department of Education whereby Dr. Harry Thomson, Field Secretary of the Canadian Dental Hygiene Council, will give two lectures on Dental Health to the students of each of the provincial normal schools in Saskatchewan. He will lecture in Saskatoon on November 28-29; in Moose Jaw on November 30 and in Regina on December 1.

*MANITOBA:*

### Winnipeg Dental Society

The Winnipeg Dental Society has been honoured recently by two prominent members of the dental profession, from Minnesota. In October Dr. Wm. A. Grey, well known periodontist, of St. Paul, addressed the Society on his two hobbies, pyorrhea and dental service to the staff, students and employees of Carlton College. The college fees include a full mouth radiograph and every employee who has in any way the handling of food served in the college dining rooms must have a clean healthy oral cavity. To Dr. Grey goes the credit for these strictly adhered to regulations. Dr. Grey has been heard on several occasions in Winnipeg and his enthusiasm for dental health seems to wax greater with the years.

The other honoured guest of the society was Dr. Carl W. Waldron, of Minneapolis. Dr. Waldron is internationally famous as an oral and plastic surgeon and the addresses he gave the Society on November 8 in Winnipeg,

made all who were fortunate enough to hear him realize that Dr. Waldron deserves his fame as a surgeon.

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**Dental Nurses and Assistants**

The Winnipeg Dental Nurses' and Assistants' Association held its monthly dinner and meeting on November 6.

Our guest speaker, Dr. C. J. F. Jackson, gave a very instructive address on "Tooth Structure and the Care of the Teeth."

A presentation was made to Miss M. Bachynsky, a bride-elect of November.—*D. A. Warren.*

*ONTARIO:*

**Toronto Academy of Dentistry**

The annual dinner, held on October 25, at Eaton's, College Street, was the first meeting of the year and Lt.-Col. W. G. Trelford, D.D.O. for M.D. No. 2 and President of the Academy, presided as toastmaster. There were approximately 250 members and guests in attendance to participate in the most colourful meeting which the Association has each year.

Guests invited to sit with the President were: Mayor Day, of Toronto; W. J. Dunlop, Director of University Extension, University of Toronto, representing President Cody; Dr. S. A. Moore, President of C.D.A.; Dr. L. D. Hogan, Chairman of the Board of Directors, R.C.D.S.; Lt.-Col. Cameron, D.M.O. for M.D. No. 2; Dr. G. V. Morton, President of Ontario Dental Society; Dean Arnold Mason of Faculty of Dentistry; Dr. C. T. Mason, President Hamilton Dental Society; Controller Fred Conboy; Willson Woodside, speaker of the evening; A. W. Laver, Commissioner of Welfare, City of Toronto; Mr. Graves, British Trade Commissioner; Dr. Harry Thomson, Secretary C.D.H.C.; and Drs. Charles Pearson, A. J. McDonagh, J. A. Bothwell, E. T. Guest, R. W. Hoffman and Harold Clark.

Other guests of the evening were the members of the Board of the Royal College of Dental Surgeons of Ontario who attended in a body; Mrs. Schumaker, President of the Ladies' Dental Auxiliary to the Academy and a number of members from the Hamilton Dental Society.

Dr. Harold Hoag, immediate Past President of the Association was presented with his jewel of office by Dr. J. A. Bothwell.

On motion of Drs. Guest and Woollatt, Dr. Charles Pearson was elected a life member of the Association. Dean Mason, in an address of eulogy, mentioned a few highlights in an illustrious career and concluded by presenting the token of life membership. Dr. Pearson's father was a dentist, also, his son is a dentist. Charles, as he is familiarly known to his many friends was graduated in 1896, just 43 years ago. Dean Mason referred to him as a good citizen, a good dentist, a good sport, a kindly husband, a gardener, an artist and sculptor of merit and a gentleman—indeed he said, "A man cannot be a successful dentist unless he is a gentleman."

Mr. Willson Woodside, a student of international affairs, a writer and public speaker, gave a splendid review of the political situation in Europe as he saw it during the summer months.

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**Eastern Ontario Dental Association**

The 62nd Annual Convention of the Eastern Ontario Dental Association was held in the Chateau Laurier Hotel in Ottawa.

The meeting was a most successful one in every department and for the third year in succession there was a healthy increase in registration. This year 123 members were in attendance. There were also guests from Montreal and Toronto. The clinicians were Dr. Walter F. Chapelle, of Buffalo, N.Y.; Dr. E. Z. Pammenter, of Rochester, N.Y.; Dr. Hilliard R. Nevin, of Brooklyn, N.Y.; and Lt.-Col. Frank Lott, of the Canadian Dental Corps, who very kindly spared an hour from his new duties to give a review of the Corps and its work. What the Executive considered a new and instructive idea was a two-hour period known as "The Open Forum." This was a decided success and many interesting discussions took place.

We were also fortunate in having with us Dr. Frank Kohli, Director of Dental Services for the Province of Ontario. He described very ably the work of his department in relation to the Ontario Department of Health. Another feature was a colour film of the royal visit by one of the members, Dr. Aime Couture. This film was a very excellent one and the prize winner in the district.

Dr. Stephen A. Moore, President of the C.D.A., was present to give a short address. The meeting is scheduled for Ottawa for a two year period. The following officers were elected:—

President—Dr. E. B. Sparks, Kingston, Ontario.

Vice-pres.—Dr. A. Roy McDougall, Ottawa, Ontario.

Sec.-treas.—Dr. W. L. Durant, Vankleek Hill.

Advisory Board—Drs. J. P. Coupland, Ottawa; G. V. Tario, Pembroke; D. Mallory, Brockville; Theo. Regnier, Rockland; C. M. Purcell, Pembroke; A. Morrow, Ottawa; and S. W. Bradley, Ottawa.

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### Hamilton Dental Association

The first meeting of the Hamilton Dental Association was held in the Royal Connaught Hotel on October 10. The members met for dinner as usual, with Dr. C. T. Mason presiding as toastmaster. The guest speaker was Dr. Earl Richey, of Chicago, and his subject was "Full Denture Prosthesis."

Dr. L. R. Main, of St. Louis, Miss., addressed the Association on November 14, his subject being "Oral Diagnosis, Dental Pathology, and Radiography." Dr. Main also appeared before the Toronto Academy of Dentistry on November 15, repeating his presentation.

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### Kent County Dental Society

The first meeting of the Kent County Dental Association was held on October 11 in the William Pitt Hotel at 3 p.m. The program was given by the Periodontia Section of the Detroit Dental Society under the direction of Dr. E. R. Romine. They presented a series of clinics on Periodontia as given at the 1939 Michigan State Convention. The subject was covered in a very complete and practical manner from the standpoint of the general practitioner.

During the afternoon Dr. Romine and Dr. D. B. Lurkins gave lectures illustrated by coloured slides on Recognition and Diagnosis of Various Types of Periodontal Disease and the Application of Toothbrush Stimulation and Instruction in Home Care. Dr. Lurkins further illustrated his work by a practical demonstration on Dr. Bert Hughes, of Sarnia.

Almost forty attended the meeting, with twenty-nine at dinner.

In the evening four table clinics demonstrated phases of the work: Applied Prophylaxis — Dr. Murray Leitch. Subgingival Curettage—Dr. Albert Law. Medicinal and Mechanical Packs and Pocket Eradication—Dr. Forrest McGuigan. Occlusal Balancing—Dr. Roy Hawkinson.

At the close of the meeting a very gracious vote of thanks was proposed by Dr. A. A. Hicks.—*J. Murray Campbell.*

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### Dental Auxiliary

The Ladies' Auxiliary to the Toronto Dental Academy and the Canadian Dental Corps held a musical in the Concert Hall of the Toronto Conservatory of Music on October 26. Mrs. Edgar W. Paul and Mrs. Stuart S. Crouch were conveners of a fine program presented by "The Versatiles," a group of talented entertainers. Proceeds of the entertainment are to be used in assisting to provide the Canadian Dental Corps with accessory dental supplies and equipment. Mrs. L. Schumaker is President of the Auxiliary.

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### Ladies Auxiliary Supper Dance

The Ladies' Auxiliary to the Academy of Dentistry, Toronto, and the Canadian Dental Corps, Toronto, sponsored a successful Supper dance at the Royal York Hotel on November 21 to raise funds for their work. Over one hundred couples attended and were received by Dr. and Mrs. Leo Schumacher and Lieut.-Col. and Mrs. W. J. Trelford. Quite a number of those actively supporting the executive entertained at parties prior to the dance. Mrs. T. R. Marshall and Mrs. L. D. Drewbrook were conveners of the dance committee.

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### Windsor Dental Nurses' and Assistants' Association

The regular November meeting of the Essex County Dental Assistants was held in the Canada Building, with Miss Dorothy Scott, the new President, in the chair.

A number of interesting demonstrations which had been given at the Convention were repeated. A short business session took place during which it was decided to dress Christmas dolls. Miss Ferne Taylor was named

convener of the committee to arrange for this. A paper on "Loyalty" by Miss Jean Jackson, Toronto, was read and enjoyed; also a report of the Montreal Fall Clinic. Posters and other contests for the 1940 Convention were discussed. At the close of the business session the members put on a skit entitled, "Telephone Personality" for the benefit of the visitors of the evening—ten Detroit members and three Hamilton members. Refreshments were served at the close of the evening.

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**London Dental Nurses' and Assistants' Association**

The October meeting of the London members was held at the home of Miss Jane Wells. Following a short business meeting all were entertained at court whist, the prizes going to Doreen Taylor and Rex Armstrong.

There were six new members and two new members present, including four from Woodstock. Everyone enjoyed a pleasant evening.

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**Toronto Dental Nurses' and Assistants' Association**

Toronto members met on November 6 in the Club Room of the Royal York Hotel, with Madge Buick in the chair. Details of the play to be presented at "Hart House" on November 25 were given and great enthusiasm was shown over the number of tickets already sold. The War Work fund will greatly benefit by this. Miss Buick expressed the thanks of the meeting to Leta Birkmyer, convener of the "Knitters and Donators Club" for her splendid work. Miss Birkmyer stated that $110 had been raised—$75 in money and the rest in material. Fifty haversacks have been promised, which will be packed by the members and presented to the soldiers at Christie Street Hospital on December 8.

Following the business session Miss Wiggins introduced the speaker of the evening, Dr. Harry M. Macrae of the Toronto General Hospital staff, who spoke on "The Care of the Eyes." He concluded his lecture with a motion picture, showing a very delicate and interesting operation. Dr. Macrae very kindly answered questions concerning the care of the eyes and received a vote of thanks from Miss Helen Campbell on behalf of the members.—MARION EDWARDS, *Publicity Convener for Ontario.*

*QUEBEC:*

**Montreal Dental Nurses' and Assistants' Association**

The above Association held its regular monthly meeting on October 10, in the Club Rooms of the Medical Arts Building.

Following a short business meeting Dr. B. B. Raginsky spoke to the members on a very interesting subject, "Mental Aspects of Physical Disease." Miss Lillian Fincher, vice-president of the club, presided.

On November 7 the members met for their meeting in the Club Rooms when Dr. Hamilton Baxter gave a very instructive illustrated lecture on "Injuries to the Face." Miss Lillian Fincher presided and at the close of the meeting refreshments were served.—*D. C. Ross.*

*BRITISH COLUMBIA:*

**Vancouver Dental Society**

The November meeting of the Vancouver Dental Society was held in The Grill of The Hotel Vancouver. The guest speaker was Dr. Roy West, Seattle, Washington. Dr. West presented a series of very interesting and instructive coloured films on Oral Surgery, showing his technique of surgical removal of the different teeth. The application of leverage was clearly shown. The removal of lower anteriors by applying upward force by means of a mallet against the under part of the forcep in a line with the long axis of the tooth was recommended. In the removal of impactions he clearly showed the technique of splitting the crowns and roots of the teeth by means of chisels and sharp blows of a mallet, then the removal with small ended elevators. The section of the film on immediate dentures was very interesting, showing the preparation of the ridges and the suturing of the gum tissues. The review of the films and his clear oral description was far superior to any chair clinic for a large number of observers.

He also presented coloured films of the wild flowers and animal life in the New Olympic National Park. Dr. West's films are wonderful and his handling of the camera is a great credit.

Reports were made by the Prosthetic and Porcelain Study Clubs. A very active year is planned and enthusiasm is keen.

# EMPIRE NEWS

*GREAT BRITAIN:*

### Scheme for the Protection of Practices of Absentee Practitioners Serving in the War

*(Excerpts from Scheme published in British Dental Journal, Oct. 2, 1939.)*

The basis of the scheme is that as many as possible of the dental practitioners shall enter into an agreement that they will not attend the patients of an Absentee Practitioner otherwise than on the terms of the scheme.

The income from the practice of the Absentee Practitioner shall be taken to be the actual cash receipts for the service rendered by the Acting Practitioner(s) on behalf of the Absentee and the division of such moneys shall be in the proportion of three-quarters to the Practitioner rendering the service and one-quarter to the Absentee Practitioner. This proviso shall apply to all kinds of professional service.

The Acting Practitioner shall display, in a prominent place in his Surgery and Waiting Room, a printed notice intimating that during the absence of a practitioner on service, the patients of the Absentee Practitioner will be attended by a home practitioner in the neighbourhood, and on the return of the Absentee Practitioner, they will be expected to seek any treatment or advice from him. Further, for the benefit of the Absentee Practitioner, fees shall be on a cash basis.

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### Dental Students

Dental Students in their final two years are exempt from National Service, and as the nation is making its preparation on the basis of three years of war, it is apparent that the best service that students can render is to fit themselves as rapidly as possible for service in their chosen profession. There will be abundant opportunities for service awaiting them when they become qualified.—*Br. D. Journal Oct. 2, 1939.*

*AUSTRALIA:*

### Degree of M.D.S.

The Registrar of the University of Sydney has sent us the following information:

Advice has been received from the General Council of Medical Education and Registration of the United Kingdom that the following resolution of the Dental Executive Committee of the Council has been adopted:

> "That the degree of Master of Dental Surgery (M.D.S.) granted by the University of Sydney be generally recognized by the Council, acting by the Committee in accordance with paragraph (*d*) of section 10 of Chapter VII of the Standing Orders, as entitling its holders, on fulfilment of the conditions prescribed by section 8 of the Dentists Act, 1878, to be registered as Colonial dentists in the Dentists Register."

I am informed that the effect of the resolution is that Masters of Dental Surgery in the University of Sydney will be entitled to be registered as Colonial dentists in the register of the General Council without further examination in the United Kingdom. Such graduates must make application to the Registrar of the Dental Board of the United Kingdom, 44 Hallam Street, London, W.1, on the prescribed form and pay the prescribed registration fee of £2.—*Dental Journal of Australia, Sept.* 1, 1939.

# GENERAL NEWS

### Changes in Dental Practice Acts

Amendments to existing dental practice acts were adopted in Kentucky, Rhode Island and South Carolina. Of particular interest is one of the provisions in the new Kentucky law which prohibits licensed dentists from announcing their profession to the public in any manner other than set forth in the law. The law specifies that the professional card of a licensed dentist may contain only his name, title (such as D.D.S. or D.M.D.), address, telephone number and office hours. The law, however, permits any dentist who confines his practice to any one branch of dental practice also to specify that his practice is limited to a stated branch of dental practice and to set forth the title of that branch.—*J.A.M.A., per N.Y. Jour. of D.*

### Heininger Appeal Denied

The United States Supreme Court, on October 9, refused to review the decision of the United States Court of Appeals for the District of Columbia which upheld the issuance of a fraud order denying to S. B. Heininger the right to use the mails for the purpose of selling dentures. This decision ends almost two years of litigation which began when the United States Post Office Department issued an order declaring that the selling of dentures by mail was fraudulent and that Heininger should be denied the use of the mails for carrying on this business.

The refusal of the Supreme Court to review this decision of the Court of Appeals means that the fraud order has been considered valid by the highest authority, and that Heininger cannot continue to conduct a mail order denture business. There seems to be reason to believe that Heininger's business was not any different than a number of other concerns and that all persons engaged in selling dentures by mail will be affected by this decision.—*Jour. A.D.A., Nov., 1939.—A.D.A. Release.*

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### Arizona Dental Law Attacked

The 1939 amendments to the Arizona dental law, which prohibit certain types of advertising by dentists, have been made the subject of a referendum. The state will vote on the advisability of retaining these amendments during the November 1940 elections.

The amendments have been opposed by the Arizona Newspaper Association and this organization has been an active factor in the circulation of the referendum petitions. In order to submit the amendments to a referendum, it was necessary to secure a minimum of 6,000 signatures and 11,000 have been obtained. While a number of these might be successfully challenged as not being those of qualified voters, it is believed that the necessary number of valid signatures would remain.

This attack on the dental law constitutes a serious threat to the maintenance of ethical conditions of practice in other states, as well as in Arizona. The Arizona Dental Society will require all of the assistance that can be obtained in its attempt to inform the voters about the real merits of the question.—*A.D.A. Release.*

## CANADIAN DENTAL CORPS

**The following information was published in November and is repeated again in this issue because of its importance and at the request of Lt.-Col. F. M. Lott, Director of Dental Services for Canada.**

### The Registration of Dental Practitioners for Prospective Appointments in the Canadian Dental Corps

In view of the present national emergency it has been considered wise to prepare for future appointments of Dental Officers by securing particulars of those who might wish to serve.

It is, therefore, requested that any dentist who would be interested in securing an appointment to the Canadian Dental Corps, should register his military and professional qualifications with the District Dental Officer of the Military District in which he resides.

These gentlemen are as follows:

M.D.
No.

1. Major John Blair, D.S.O.....London, Ont.
2. Lt.-Col. W. G. Trelford, V.D.....Toronto, ..... Ont.
3. Lt.-Col. John Broom, E.D....Kingston, Ont.
4. Major F. W. Saunders.....Montreal, P.Q.
5. Lt.-Col. J. W. Rooney, E.D....Quebec, P.Q.
6. Major C. B. Climo, D.C.M., E.D. ..... Halifax, N.S.
7. Major J. F. Edgecombe.....Saint John, N.B.
10. Lt.-Col. W. W. Wright...Winnipeg, Man.
11. Capt. E. Fraser Allen.....Victoria, B.C.
12. Lt.-Col. Geo. L. Cameron, D.S.O., V.D. ..... Regina, Sask.
13. Major L. V. Janes.....Calgary, Alta.

The information rendered should cover the following points and be listed in this order:

1. Name of applicant in full. This will assist Headquarters in referring to former records of the registrant.
2. Age.
3. Whether or not a British subject. Only British subjects can be considered for appointment.
4. Probable physical fitness.
5. Particulars of former military service and training.
6. Year of graduation and name of University.
7. Dental licenses held.
8. Particulars of special professional training.
9. Notice required before entering upon duty.

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### Registration of Dental Technicians For Possible Enlistment in the Canadian Dental Corps

In the recruiting of men of specialized training, it is highly desirable that dental technicians should be given an opportunity for service in the Dental Corps.

The most logical method of insuring preference for those with superior training would seem to be a system of registration, and it is

therefore requested that all technicians interested in serving with the Canadian Dental Corps should register with the District Dental Officer of the Military District in which they reside.

The District Dental Officers are as follows:

M.D.
No.

1. Major John Blair, D.S.O.....London, Ont.
2. Lt.-Col. W. G. Trelford, V.D.....Toronto, Ont.
3. Lt.-Col. John Broom, E.D....Kingston, Ont.
4. Major F. W. Saunders.....Montreal, P.Q.
5. Lt.-Col. J. W. Rooney.....Quebec, P.Q.
6. Major C. B. Climo, D.C.M...Halifax, N.S.
7. Major J. F. Edgecombe.....Saint John, N.B.
10. Lt.-Col. W. W. Wright.....Winnipeg, Man.
11. Capt. E. Fraser Allen.....Victoria, B.C.
12. Lt.-Col Geo. L. Cameron, D.S.O., V.D. .....Regina, Sask.
13. Major L. V. Janes.....Calgary, Alta.

The information submitted should include the following items and in the order noted.

1. Name in full.
2. Age.
3. Birthplace.
4. Whether or not a British subject. Only British subjects can be enlisted.
5. Probable physical fitness.
6. Previous military experience.
7. Length of notice required before reporting for duty.
8. From the technical standpoint, experience in dental laboratory work in its various branches.

## COMMON TO ALL ARMS
## LIEUTENANT TO CAPTAIN
### In preparation for 1st Examination Paper

| Period | Detail | Reference |
|---|---|---|
| | **General Organization** | |
| 1 | Organization of a Division (Not required in Detail). Organization of N.P.A.M. | Organization of Units for use at examinations only. War Establishments. |
| 2 | Appointments, promotions and retirements of officers, enlistment, term of service, promotion, transfer, discharge, re-engagement of O.Rs., N.P.A.M. | K. R. (Can.) |
| | **Administration** | |
| 3 | System of supply of clothing and equipment, stores and accounting, procedure for recovery of lost arms and equipment (Peace) | Clothing Regulations, Equipment Regulations, and Militia Act. |
| 4 | Supply, repair, replacement of stores, clothing and equipment and vehicles in the field | F.S.R. Vol. I |
| 5 | Supply of ammunition and petrol | F.S.R. Vol. I |
| 6 | Supplies in the field and casualties | F.S.R. Vol. I |
| 7 | Messes, canteens, institutions and regimental funds | K. R. (Can.) |
| | **Map Reading** | |
| 8-9 | Recapitulation of all subjects as for Lieutenant | Notes on Map Reading. |
| 10-11 | Photo reading | Manual of Map and Photo Reading and Field Sketching. |
| 12 | Map enlargements | Manual of Map and Photo Reading and Field Sketching. |
| 13-18 | Exercises | |
| 13-18 | Exercises | |
| | **Military Law** | |
| 19 | Review 1st period as for Lieutenant. | |
| 20 | Review 2nd and 3rd period as for Lieutenant. | |
| 21 | Procedure for laying charges, awarding and recovering penalties | Militia Act. Sec. 125-133. |
| 22 | Discipline—General instructions, arrest and military custody, investigation of charges | K.R. (Can.) para. 410-482. |
| 23 | Rules of evidence | M.M.L. Chap. VI. |
| 24 | Discipline at School of Instruction. General Scope of Courts of Inquiry and Boards of officers | K.R. (Can.) paras. 528-530, 635-649. |

**Regarding the Proposed New Plan of Dental Education at Harvard**

During the past year a Harvard University committee has been studying the problems of dental education. The report of this committee has been considered by the Faculty of Medicine and by the University Administration.

No official statement regarding the suggestions of the committee has yet been released. Nevertheless, various accounts, based entirely upon rumour, have appeared. It is unfortunate, both for the Harvard Dental School and for dental education, that many irresponsible and misleading statements have been made which, in large part, are without foundation in fact.

It is not possible to release the details of the plan which has been formulated at this time, but it is expected that a full account of it will be made public not later than January first. In the meantime the following observations may serve to correct some of the many misapprehensions that now exist.

1. Harvard is not "going to end its dental school after seventy years."

2. It is not true that, beginning this fall, the Harvard Dental School would cease to exist. As a matter of fact the Harvard Dental School did accept this fall the usual first year class, with a full quota of students, and will carry this class through the entire four years under the present framework.

3. There is no truth in the statement, as applied to the present situation, or to the contemplated new plan, that "All candidates contemplating the study of dentistry must first enroll and qualify by acquiring the degree of doctor of medicine, before entering upon the study of dentistry."

4. The statement, that the objective of the new course in dentistry will be not to train men for the general practice of dentistry, is misleading. Whatever new plan is adopted, it will still be possible for men to qualify for general dental practice and to satisfy requirements for licensure.

5. The statement has been made that Harvard is going to discontinue teaching prosthetic and other forms of restorative dentistry, and confine itself simply to preparing men for oral surgery and other specialties. Again, this is wholly without foundation in fact.

6. The dental profession may rest assured that any modifications in the curriculum now under consideration will, if put into effect, be expected to elevate the importance of dentistry as a profession, and neither to lower its standards nor to diminish its effectiveness.

7. Until a full account of the plans of the new course has been presented officially, we ask the many who are interested in the Harvard Dental School and in the progress of dental education to delay judgment. — *Leroy M. S. Miner, Dean, Harvard Dental School.*

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**Correction**

Dr. Robert L. Scharff, of Edmonton, Alberta, is the Alberta provincial representative of the Canadian Dental Hygiene Council and Dr. Harry A. Gilchrist, of Edmonton, and Dr. V. H. Macaulay, of Calgary, are the two directors from Alberta on the Canadian Dental Research Foundation.

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**Alpha Omega Fraternity**

The Alpha Omega Fraternity is now in the process of publishing a new and complete directory of its entire membership. All fraters are hereby requested to forward their names, office addresses, year and school of graduation to the Supreme Scribe.

WILLIAM RICH, *Supreme Scribe,*
575 Belleville Avenue,
Belleville, N.J.

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**46,000 Alumni Can't be Wrong; College Pays**

Proof that a college education pays dividends has been found in a survey of 46,000 alumni graduated from thirty-one colleges and universities in the United States. The report was announced today by John W. Studebaker, United States commissioner of education.

The University of Chicago, De Paul University of Chicago, and the University of Illinois are among the schools which participated in the survey, which covered graduates from 1928 to 1935.

The survey showed that 96 per cent of all the men and 93 per cent of all the women were employed either temporarily or permanently. Their average age upon graduation was 22 years.

Among the 46,000 who replied to questionnaires, only 2 per cent of the men and 1 per cent of the women have been on relief.

Salary scales paid to college men generally were higher than paid to women, although older college women earn more than young college men. The typical salary of a male college graduate the second year out of school was found to be $25 a week, while the average woman graduate two years out of school could command only $21.

Salaries paid to men were found to increase about $150 a year until they were earning about $45 a week eight years after graduation while women's salaries increased only $9 a week to $30 after eight years.

Sixty-five per cent of the alumni reported themselves in the professional groups. Teaching attracted 17 per cent of the men; engineering, 13 per cent; law, 9 per cent, and medicine 6 per cent.

Forty-eight per cent of women graduates found teaching positions, while 29 per cent had general occupations, including 16 per cent in domestic work.

In the years immediately after graduation, the best paying occupations were dentistry, forestry, and telephone work, all of which average $2,000 or more yearly. Farming, architecture, engineering, and public offices were found to pay salaries of from $1,500 to $2,000 the first year.

The best paying occupations for college men after eight years are dentistry, medicine, law, public office, architecture, insurance, research, forestry, business, and telephone work. Typical salaries are in excess of $2,500.

Nursing, according to the survey, was found to be the best paid occupation for women, with an average salary of $1,692, while the average pay for teaching was $1,236.

More than 50 per cent of the alumni said experience prior to graduation, plus initiative, got their first jobs.

*Chicago Tribune—4/25/39, A.D.A. Release.*

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**The Centennial of American Dentistry**
**by ARTHUR H. MERRITT, New York, N.Y.**

On March 17-20, 1940, in the City of Baltimore, under the auspices of the American Dental Association, American dentistry will celebrate the centenary of its birth. This should prove to be an epoch making event in its progress. Never in the life of any living member of the profession, will there be an occasion of like importance. Already, plans are under way to make this a memorable affair. A program is being prepared that will be unique.

On March 17, the American College of Dentists, in co-operation with several other dental organizations, including the American Dental Association, American Association of Dental Schools, American Association of Dental Editors, the International Association for Dental Research and Omicron Kappa Upsilon, will put on a program showing the steps by which dentistry, in this country, has advanced to its present high standing. These will be represented by Organization, Journalism, Education and Research.

In each of the several scientific sections to be held on March 18, 19 and 20, three essayists, chosen for their known qualifications for the assignment, will present papers. Each has been selected as representative of the best in his field. Men of high distinction, outside of the profession, will address the general assembly.

On two of the three evenings, a pageant depicting the history and progress of dentistry will be presented. The cast of more than two hundred will all be professionals. Rehearsals are now under way to make this an outstanding feature of the celebration.

Attendance at the meeting in Baltimore should be an unforgettable experience, one which no dentist, interested in the history and progress of his profession, can afford to miss.—*Published simultaneously in American Dental Journals.*

# IN MEMORIAM

**Lieut.-Col. George Gow, C.M.G.,** of Toronto, Ontario, aged 62, died November 22, following a prolonged illness. He was graduated from the Faculty of Dentistry, University of Toronto, and also the Chicago Dental College. He began his practice in Toronto in 1900, retiring a year ago.

He was appointed dental surgeon to No. 4 Canadian General Hospital, University of Toronto Unit, in 1915. He served for two years at Salonica and for the rest of the war at Basingstoke, England. He was twice mentioned in despatches and in 1916 was made Lieutenant-Colonel. He was made a commander of the Order of St. Michael and St. George by King George V in recognition of his service to his country. Col. Gow also had bestowed upon him the Serbian Order of the White Eagle by King Peter of Serbia for services rendered His Majesty. Returning to Toronto following the War, Col. Gow continued his dental practice until ill health compelled him to retire. He was a member of St. Andrew's Presbyterian Church and also a member of Rosedale Golf Club. In 1918 he married Nursing Sister Margaret Stevenson of Toronto, who was also attached to Unit No. 4.

Col. Gow is survived by his widow; one daughter, Mary; one son, George Alexander; two sisters, Miss Margaret and Miss Janet, of Toronto; and three brothers, Dr. James Gow, of Windsor; John E. Gow, O.B.E., of Kingston, and Col. Walter Gow, of Toronto.

•

**Eugene V. Underhill,** of Aurora, Ontario, died suddenly in St. Michael's Hospital, Toronto, on November 13th, following a surgical operation.

Doctor Underhill graduated from the Royal College of Dental Surgeons of Ontario, and took up practice in Aurora. He was well known and highly regarded both as a citizen and as a dentist. He gave to his community, his church, to his profession and to his patients freely of his time and ability. His passing at the age of 40 years has cut short a life devoted in service to his fellows.

"Gene" Underhill, as he was familiarly known to so many Dental colleagues, was an active member of the Academy of Dental Surgeons of Toronto, and the Ontario Dental Association.

He was a member of Aurora High School Board; he was on several occasions nominated for mayor of Aurora; he was a past master of Rising Sun Masonic Lodge, and a member of the Orange Order of the Oddfellows. He was a member of Aurora United Church, serving on its board of Stewards.

Doctor Underhill is survived by his widow and two children, Carol and Eugene; his mother, one sister and three brothers.

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**William A. Piper,** of Calgary, Alberta, died October 16 following a long illness. He was born at London, Ontario, and was graduated in dentistry from the University of Toronto. He practised for a few years in Leamington and in London, Ontario, and moved to Calgary in 1918.

Throughout his life Dr. Piper was actively interested in Masonry, becoming a 32nd degree Mason while still in London. He later became the first Most Wise Sovereign of the Rose Croix Chapter and was also a member of the Royal Order of Scotland.

Surviving are three sons: Richard L., with the Royal Air Force in England; Lawrence S., in Trail, B.C., and W. J. Piper, in Montreal; and a daughter, Mrs. George W. Pocaterra, of Milan, Italy, professionally known as Mme. San Giorgio, a well-known opera coloratura.

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**Harrison P. Moody,** of Vancouver, aged 66, died November 4 after a lingering illness. He was born in Victoria, received his dental degree in Philadelphia and moved to Vancouver in 1895. Two brothers, who also practised dentistry in Vancouver, predeceased him. He was a member of Southern Cross Lodge, No. 44, A.F. & A.M.; also, the Knights Templar.

Dr. Moody is survived by his widow.

## . . . SECTION FRANÇAISE . . .

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# *La Chimie et ses Relations avec la Dentisterie*


par LEON LORTIE

*Docteur ès sciences physiques (Paris), Professeur agrégé de chimie générale à la Faculté des Sciences de l'Université de Montréal.*


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Au mois de juin dernier paraissait dans notre Journal un article dont vous avez reconnu le titre plus haut.

En faisant la table des matières, nous avons constaté, avec peine, que le nom de l'auteur avait été supprimé par l'imprimeur. Nous nous excusons auprès du docteur Lortie de cette erreur et nous prions les lecteurs de vouloir bien faire la correction telle que nous l'avons indiquée plus haut.

LA REDACTION.

# *La Pyorrhée et le Dentiste 1939*

D. P. MOWRY, D.D.S., Montréal.

"Nos actions finissent toujours par ressembler à nos pensées" a dit quelqu'un.

En examinant la bouche de nos patients, quelles sont donc nos pensées?

Il est déplorable de constater, dans la pratique de l'art dentaire, cette place prépondérante qu'on donne aux dents, laissant à l'arrière-plan les tissus gingivaux qui les entourent. Des autorités dentaires, telles que G. V. Black et B. Gottlieb, déclarent cependant que 90% des maladies gingivales ont une cause locale, et nécessitent un traitement local.

Les cellules des tissus gingivaux sont de vivantes cellules animales. Leur structure, comme toute partie de l'organisme humain, est le résultat de la fonction; le rapport existant entre la morphologie et la fonction est d'ailleurs un fait établi en physiologie. Si la denture et la qualité du sang et de la salive sont à l'état physiologique, aucun changement pathologique ne s'opérera dans les tissus gingivaux; cet énoncé est à la base de tout traitement des maladies gingivales. On ne guérit pas la maladie, on traite simplement les cellules, de façon à ce qu'elles reprennent leur développement normal. C'est pourquoi il faut appliquer les principes de l'anatomie et de l'arrangement des dents pour que la fonction serve la physiologie. La maladie a généralement pour cause un dérangement fonctionnel.

J'ai entendu beaucoup de dentistes dire que tous les cas de pyorrhée se guérissent par l'extraction dentaire. Il est de toute évidence que la pyorrhée se guérira, si l'état hygiénique et fonctionnel des tissus gingivaux qui entourent les dents est équivalent à la condition produite par l'extraction dentaire. Des spécialistes en maladies gingivales ont d'ailleurs prouvé ceci d'une façon absolue.

Pourquoi le dentiste échoue-t-il où le spécialiste, lui, réussit?

Premièrement, parce que le dentiste est un bien pauvre philosophe.

Nombre de dentistes sont, ou satisfaits d'avoir un peu plus de connaissances que le grand public, ou encore, passez-moi le mot, mais il est vrai tout de même, trop paresseux pour mériter le nom de professionnel. Le vrai professionnel, c'est celui qui a le sens de sa vocation et dont tous les efforts sont tendus vers un idéal.

Le dentiste est-il préparé à combattre les maladies gingivales?

Beaucoup de dentistes ont contracté l'habitude de confier au technicien de laboratoire le soin de faire leur travail dentaire minutieux devant leur rapporter des honoraires très élevés. L'extraction dentaire est pour la plupart d'entre eux une intervention quelconque; une empreinte, une articulation, et le laboratoire fait le reste. Ces dentistes vendent des dentiers.

Le dentiste de 1939 n'a pas le droit d'ignorer le traitement de la pyorrhée, car nombreux sont les bons auteurs qui traitent de ce sujet, et nombreuses sont les écoles dentaires où se donnent des cours de perfectionnement relatifs au traitement des maladies gingivales, et la plupart des spécialistes sont heureux de faire part de leur savoir au dentiste.

Le traitement de la pyorrhée n'est pas difficile; les mesures préventives sont simples et le maintien de l'état physiologique après la guérison est affaire de routine.

La plupart de vos patients atteints de maladies gingivales sont relativement en bonne santé et ne souffrent d'aucune stomatite spécifique, telle l'infection de Vincent. C'est de ces cas ordinaires, si souvent négligés, dont je veux vous parler aujourd'hui.

Supposons qu'un dentiste, au lieu de faire l'extraction dentaire, fasse subir un traitement gingival à son patient; comment procédera-t-il?

La dent est supposée avoir des dents avoisinantes comme appui proximal et des dents antagonistes comme stimulant fonctionnel.

La thérapeutique et la prophylaxie ne peuvent pas remplacer l'ajustement occlusal; l'un et l'autre sont essentiels.

Je suis redevable au Dr. Sydney Sorrin de New York du précis suivant sur l'équilibre dentaire ou ajustement de l'occlusion dentaire.

*Premièrement*: Contrôler l'occlusion centrale—dents en occlusion et mandibule en position de rétropulsion. Dégager, en meulant les dents qui sont gravement traumatisées verticalement, ce qui a pour résultat un ébranlement prononcé. Dégager pour empêcher l'accumulation des débris alimentaires.

*Position de propulsion*: Meuler et polir, pour les modifier au sens esthétique, les dents antéro-supérieures.

Ajuster les dents antérieures de la mandibule à la ligne antéro-supérieure de façon à ce que le plus de dents antérieures possible fassent contact.

Eviter, autant que possible, la moindre perte de contact des dents antérieures en occlusion centrale; la pression de la langue peut provoquer la propulsion des dents antéro-inférieures, s'il n'y a pas de contact central.

*Mouvement de propulsion*: Ajuster pour obtenir un mouvement aisé de l'occlusion centrale à la position de propulsion. Dégager de façon à ce que les dents inférieures glissent facilement sur les dents antéro-supérieures. Meuler les dents supérieures seulement, autant que possible. Modifier les dents postérieures de façon à ce qu'elles permettent ce mouvement dégagé, en ayant bien soin de n'en pas meuler les surfaces, comme il sera peut-être requis de le faire dans certaine autre position. Si, au cours de ce mouvement, ou les dents antéro-supérieures, ou les dents antéro-inférieures sont traumatisées et si, après avoir meulé les dents supérieures, on n'obtient pas le soulagement voulu, on peut alors meuler les dents inférieures, même au point d'enlever tout contact central, à condition toutefois que le mouvement de propulsion soit suffisant pour prévenir le déplacement des dents antéro-inférieures:

*Mouvement latéral*: Meuler, pour diriger les cuspes, toutes les dents de l'arcade supérieure, exception faite toutefois du point de contact central. Glisser les dents en mouvements latéraux, d'une façon dégagée et ininterrompue. Voir à ce qu'il y ait le plus de points de contact possible sur le plus de dents possible, mais surtout voir à obtenir un mouvement dégagé et des formes de dents proportionnées à l'âge. Faire indifféremment le mouvement latéral gauche ou droit, peu importe, mais ne jamais faire les deux simultanément. Dégager la face linguale des dents antéro-supérieures nuisant au mouvement latéral. En principe, se borner en meulant les dents postérieures à ne meuler que les cuspes buccaux de l'arcade supérieure et les cuspes linguaux de la mandibule, afin de ne pas fermer l'occlusion. Les articulés d'action et les articulés d'équilibre "working bite and balancing bite" doivent être en harmonie.

*Occlusion centrale*: Etablir un contact simultané de toutes les dents dans la position de contrôle "test position". Si, dans cette position, les dents antérieures ne font pas contact, ne pas meuler les dents postérieures, ce qui aurait pour resultat de fermer l'occlusion. On a généralement à meuler très peu, dans des cas semblables; la sonde occlusale, la sensibilité du patient, le papier carbone et la palpation peuvent nous bien servir. Il est parfois nécessaire d'ouvrir l'occlusion au moyen d'incrustations ou de ponts sur les dents postérieures.

J'ai parlé de la relation qu'il y a entre l'anatomie et la fonction. Il n'a été question jusqu'ici que du facteur essentiel en anatomie, savoir: occlusion d'équilibre. Voyons maintenant le rôle de la fonction. La fonction des dents est de broyer et de mastiquer les aliments. Si l'alimentation est bonne, la dentition sera nécessairement bonne et point ne sera besoin d'aucune intervention corrective. Un des résultats de notre diète moderne est de laisser des débris alimentaires autour des dents, particulièrement dans la crevasse gingivale et dans les espaces proximaux.

L'émail et l'épithélium des gencives sont en union organique pour un certain

temps, après que la couronne des dents a fait irruption. L'histologie nous démontre que la nature a pourvu à l'union organique des dents et des tissus mous, même quand ces premières ont suffisamment fait irruption pour laisser voir le cément.

C'est le devoir du dentiste d'établir cet état. S'il s'agit d'une simple gingivite, la prophylaxie ordinaire suffira. Passez-moi la remarque, si je dis que beaucoup de dentistes ne peuvent pas faire ou ne font pas une prophylaxie complète. On la fait d'abord en se servant d'instruments à main; c'est une opération chirurgicale de première importance. On se sert du tour de bureau pour polir l'émail de la couronne; mais ce qui, dans le traitement de la périodontie, nécessite le plus de soins, c'est la crevasse gingivale. Il y a là un champ d'inflammation. Un grattage approprié de la dent et un simple curetage de la crevasse faits dans des conditions hygiéniques guériront tous les cas de gingivite d'origine locale.

Si l'infection ou traumatisme a déterminé des poches profondes, on obtiendra la guérison des cas d'origine locale en enlevant chirurgicalement le bord gingival jusqu'à la crête alvéolaire et en traitant au moyen de pâte chirurgicale "surgical packs". L'enlèvement de ce tissu mou peut être fait à l'aide d'un bistouri Bard-Parker ou par coagulation, tel que l'a démontré le Dr Laurin lors du dernier congrès.

Le maintien de la santé est, de la part du patient, hygiène dentaire quotidienne, et de la part du dentiste, prophylaxie à tous les six mois ou plus souvent si l'état de santé du patient, par suite de sa négligence ou de sa stupidité, rend la chose nécessaire.

Je ne saurais trop insister sur le fait que le dentiste doit gratter et polir à la main le tiers gingival de chaque dent jusqu'au bord gingival. Ceci nécessite de la dextérité et de la patience, mais il en résulte une bouche saine, car le facteur principal de l'introduction de microbes pathogéniques dans la bouche est le champ de putréfaction pourvu par la présence des dents. Un autre résultat important de l'hygiène dentaire est la conservation, pour une plus longue durée, de la santé des dents, donnant au patient une meilleure mastication, et de ce fait, prolongeant sa vie. Il ne faut pas oublier que le pouvoir de mastication des dents postiches n'est qu'une fraction seulement du pouvoir de mastication de la dentition naturelle. Evidemment, plus le patient garde ses dents longtemps, plus elles sont une source de revenus pour le dentiste.

Il n'est pas nécessaire d'avoir un grand nombre d'instruments pour faire une prophylaxie. La connaissance de ce qu'on veut faire et une main capable de l'exécuter, voilà l'essentiel. Comme instruments, je vous recommande les suivants:

Ciseau prophylactique McCall no 1;
grattoirs prophylactiques McCall nos 7, 8 et 9;
curettes prophylactiques McCall nos 17 et 18;
sickle prophylactique Towner's no U15.

Cet instrument de Towner's est précieux pour le grattage minutieux des surfaces proximales en-dessous du point de contact.

En donnant des instructions au patient, qu'on lui démontre bien, au moyen de solution colorante, les endroits où les débris alimentaires sont susceptibles de s'accumuler.

*Suivront*: Une démonstration sur la façon de se servir de sa brosse à dents;
une démonstration sur la façon de se servir du stimulateur interdentaire;
une démonstration sur la façon de se servir des cure-dents—Stim-U-Dents;
une démonstration sur la façon de se servir de la soie dentaire Floss.

Qu'on insiste pour que le patient revienne tous les six mois, pour une prophylaxie.

J'ai fait mention tantôt du bistouri Bard-Parker pour l'excision des poches profondes; on peut aussi bien se servir d'une lancette ou du coagulateur électrique.

L'antiseptique que je préfère est la Teinture de Métaphen; il y en a cependant beaucoup d'autres très bons.

J'emploie la pâte chirurgicale de Ward's, combinée à un morceau de gaze de grandeur requise, comme paquetage après l'opération.

Comme second pansement, particulièrement dans un espace interproximal, j'emploie souvent la cire Dunlop.

Il est très essentiel que le patient se serve du stimulateur inter-dentaire, partout où il y a eu enlèvement de tissus dans un espace interproximal.

En terminant, je répète que la nature a pourvu à l'union organique, sans inflammation et sans congestion, des dents et des tissus mous, et c'est le devoir du dentiste de rétablir et de maintenir cet état.

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# *Principales Causes de Litiges Entre Dentistes et Patients*

par ERNEST CHARRON, D.D.S.
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Il arrive trop fréquemment, que des patients, à tort ou à raison, font des procès aux dentistes, à qui ils réclament des dommages-intérêts. Ces poursuites, qu'elles soient justifiées ou non, sont de nature à porter atteinte au prestige de notre profession. Elles constituent, pour ceux qui en sont l'objet, une source d'ennuis et une perte de temps. Elles nuisent à leur réputation, parfois même elles leur causent un préjudice matériel. Elles tendent enfin à compliquer les relations du dentiste avec les compagnies d'assurance. C'est pourquoi il nous paraît opportun de traiter ici cette question.

Nous rechercherons d'abord quels sont les principaux sujets de litige entre les dentistes et leurs patients. Ceux qui ont suivi les procès qui se sont instruits devant nos tribunaux, depuis une dizaine d'années, ont constaté que les réclamations les plus fréquentes portent sur les sujets suivants: bris d'aiguille, introduction d'une dent ou d'une racine dans un poumon, perforation du sinus, extraction imparfaite, hémorragie, infection.

Le dentiste—n'en doutez pas, mes chers confrères—n'est pas un surhomme. Qu'il lui arrive parfois, comme à tout le monde, quelque accident, rien de plus naturel. Dans toute intervention, le dentiste et le patient prennent tous deux un risque, et cela est normal, puisque le risque est inhérent à toute initiative humaine, dans quelque domaine que ce soit. Ce que l'on peut raisonnablement attendre de nous, c'est que nous limitions les risques dans la mesure du possible. C'est là, règle générale, notre premier souci. Les tribunaux se sont d'ailleurs souvent fait un devoir de le reconnaître.

Il convient d'ajouter que, de nos jours, les interventions du dentiste sont, bien souvent, plus difficiles et plus délicates qu'autrefois. D'abord, les progrès de la technique dentaire nous mettent en mesure de faire des opérations plus compliquées, dans l'intention non seulement de guérir un mal local, mais encore d'améliorer l'état général d'un patient atteint de désordres d'origine dentaire. Ensuite, pour des raisons dont l'analyse n'entre pas dans le cadre de cet exposé, nous avons souvent affaire à des personnes dont le mauvais état de santé, plus ou moins apparent, déroute les prévisions qui semblaient les mieux fondées, et aggrave les risques. C'est pourquoi il importe plus que jamais de redoubler d'attention et de précautions.

Examinons donc ensemble les principaux sujets de litige auxquels nous sommes exposés à faire face.

Bien que la situation se soit beaucoup améliorée sous ce rapport, surtout depuis une couple d'années, il se produit encore des bris d'aiguille entraînant des conséquences plus ou moins sérieuses. Lorsque, il y a une vingtaine d'années, l'usage de l'anesthésie régionale, ou tronculaire, a commencé à se répandre au Canada, il n'y avait guère d'accidents. Cette technique étant nouvelle, chacun la suivait rigoureusement et n'employait jamais que les aiguilles prescrites. Mais, une dizaine d'années plus tard, les accidents se multiplièrent. Quelle en est la raison? Nous ne saurions faire, à ce sujet, une affirmation catégorique; nous croyons toutefois qu'il est possible, sans trop de témerité, de hasarder une explication. Cette technique étant devenue courante et même familière, plusieurs se crurent dispensés de la stricte application qu'ils en faisaient au début et tentérent des innovations plus ou moins recommandables. Ainsi, quelques-uns substituèrent à l'aiguille de platine munie d'une garde, une aiguille sans garde, ou une aiguille plus fine ou plus courte; d'autres remplacèrent même l'aiguille de platine par une aiguille d'acier. Hâtons-nous de dire que l'aiguille d'acier ou d'alliage n'est pas mauvaise en soi, pourvu qu'elle ait les dimensions requises; mais on ne peut pas en attendre le même service. Elle exige d'ailleurs de plus grands soins et il faut la renouveler beaucoup plus souvent. Vous savez que ce sont les aiguilles d'acier qui donnent lieu au plus grand nombre d'accidents. Outre qu'elles se brisent plus facilement, elles sont beaucoup plus difficiles à stériliser.

L'introduction d'une dent ou d'une racine dans un poumon se voit aussi moins fréquemment. En recherchant les causes de l'amélioration qui s'est produite sous ce rapport, nous découvrirons peut-être les meilleurs moyens de prévention. Si ces cas sont plus rares aujourd'hui, nous croyons que cela dépend de l'usage plus répandu du barrage, que nous sommes d'ailleurs moralement et légalement tenus d'établir chaque fois que nous recourons à l'anesthésie générale, qu'il s'agisse ou non d'extraction. Cela vient aussi sans doute de ce que l'anesthésie se fait dans des conditions plus favorables, grâce au perfectionnement de la technique et au plus grand choix des anesthésiques.

Les cas de perforation du sinus sont malheureusement trop fréquents. C'est là un accident toujours possible, mais qui n'est pas nécessairement grave. On peut souvent le prévenir en recourant à une technique appropriée, lorsqu'on fait une intervention dans les régions voisines du sinus. Quand on est en présence d'une simple perforation du sinus, il suffit d'aseptiser convenablement le fond de l'alvéole et d'y appliquer une mèche, sans exercer de pression sur le sinus, de façon à favoriser la cicatrisation. Cette mèche doit être renouvelée toutes les vingt-quatre ou quarante-huit heures, selon les besoins, par des mèches d'une grosseur décroissante, au fur et à mesure des progrès de la cicatrisation.

Si la perforation du sinus s'aggrave de l'introduction d'une dent ou d'une racine, il faut interrompre immédiatement l'intervention, placer temporairement une mèche et radiographier. Si la radiographie révèle la présence d'une dent ou d'un débris dans le sinus, il n'y a pas lieu de s'alarmer. Il importe d'en prévenir le patient—ou les parents, s'il s'agit d'un enfant—et d'appeler en consultation un spécialiste dont on laisse le choix à l'intéressé, ou que l'on suggère, au besoin. Le dentiste doit, dans ce cas, accompagner le patient chez le spécialiste à qui il fournit lui-même toutes les explications nécessaires. Cet accident, dont le dentiste, bien entendu, n'est pas nécessairement responsable, exige l'intervention d'un spécialiste, aussi bien dans l'intérêt du dentiste lui-même que dans l'intérêt du patient.

L'extraction imparfaite, c'est-à-dire celle qui laisse une racine ou quelque débris dans l'alvéole, était assez expliquable autrefois. L'état de la technique, en matière d'extraction aussi bien qu'en matière d'anesthésie, rendait l'évidement si difficile que souvent l'on semblait justifiable de ne pas pousser plus loin l'intervention, de crainte de faire plus de mal que de bien. Mais les progrès de la technique—technique de

l'extraction et technique de l'anesthésie locale ou générale — facilitent beaucoup aujourd-hui l'enlèvement, presque sans risque, des dents incluses, des racines ou des moindres débris. Aussi n'avons-nous plus aucune raison de ne pas faire des extractions parfaites.

Il se présente parfois, évidemment, des cas exceptionnels. Ainsi, quand on se trouve en présence d'un patient sous une anesthésie générale dont la réaction est peu rassurante, ou qui présente de l'oedème et une grave infection, il vaut mieux ne pas pousser plus loin l'intervention au moment même, si l'on constate que l'extraction a laissé quelque débris. Il importe alors de mettre le patient au courant de la situation, de prescrire le traitement qui s'impose, puis de reprendre l'intervention à un moment plus propice. Si le patient n'est pas prévenu et si l'on néglige de le suivre, il peut en résulter des conséquences graves qui engagent la responsabilité du dentiste. Règle générale, cependant, il vaut mieux intervenir immédiatement, parce que c'est plus facile à la fois pour le dentiste et pour le patient.

Il va sans dire qu'il importe d'abord de se rendre compte que toute intervention que l'on fait est parfaite. Pour cela, il est indispensable de constater que chaque extraction est complète; dans le doute, on doit rassembler toutes les pièces extraites en vue de reconstituer les dents que l'on avait à extraire. Si cette reconstitution n'est pas satisfaisante, il est indiqué de faire tout de suite une radiographie du champ opératoire, qui fournira des indications précises. Cette vérification préviendra de nombreuses complications.

Les cas d'hémorragie sont très nombreux. Ils tiennent, soit au manque de prévention, soit à l'absence d'un traitement fait en temps opportun, soit encore à un traitement insuffisant. Quand un patient saigne d'une façon anormale et qu'il en informe son dentiste, celui-ci doit aller immédiatement chez ce patient ou le faire venir chez lui. Il doit se rendre un compte exact non seulement du degré de gravité de l'hémorragie, mais aussi de l'état général du patient. Après avoir fait le traitement approprié, s'il lui reste un doute, il convient d'appeler un médecin en consultation.

L'accident le plus fréquent et aussi le plus grave, c'est—comme vous le savez—l'infection. Il est souvent impossible d'en déterminer la cause. C'est un danger toujours présent. Aussi ne doit-on jamais rien négliger en vue de le prévenir. Le premier moyen de prévention, c'est la connaissance de l'état général du patient, dans la mesure où il est possible au dentiste de s'en rendre compte. Si le dentiste a la moindre inquiétude, il doit redoubler de précautions et, au besoin, appeler un médecin en consultation. Il serait sans doute superflu d'ajouter que, dans tous les cas, l'aseptie la plus rigoureuse s'impose. L'infection résulte souvent d'une intervention entreprise dans des conditions défavorables, c'est-à-dire dans une bouche que l'on n'a pas assainie au préalable, ou même d'un trop grand nombre d'extractions en une seule séance. Il est évident que la multiplicité des cavités accroît le risque d'infection. Quelle qu'en soit la cause, l'infection est toujours dangereuse; elle est parfois mortelle.

Même si l'état général du patient s'avère satisfaisant, autant que le dentiste puisse le constater, et même si l'on a pris toutes les précautions possibles, il peut arriver—pour des raisons qu'on ne découvrira peut-être jamais—qu'un patient fasse de l'infection. C'est pourquoi il est toujours recommandable de revoir un patient après une intervention, ou tout au moins de lui demander de nous signaler la moindre anomalie. On doit aussi établir une fiche précise et complète, sur laquelle il importe de relever la moindre observation et le détail de son intervention. Des précisions qui peuvent paraître sans intérêt au moment de l'intervention fourniront peut-être des indications précieuses en cas de complication.

Quand on se trouve en présence d'un cas d'infection, il faut mettre le malade au repos, faire prendre sa température deux fois par jour, parce que le thermomètre

indique, règle générale, le degré d'infection, et prescrire le traitement approprié. Il est toujours recommandable de mettre, dès le début, le patient au courant de son état, sans toutefois l'alarmer, et de lui expliquer, dans la mesure où il peut les comprendre, les phénomènes pathologiques qui se produisent, ainsi que les raisons qui motivent notre traitement. Si l'infection s'aggrave, ou même persiste, il y a lieu de faire appeler d'urgence un chirurgien qui a l'habitude de ces cas. Il importe que le dentiste assiste à la consultation, afin de fournir avec précision au chirurgien toutes les explications relatives à l'intervention et au traitement, et il importe aussi qu'il suive le patient avec le chirurgien.

La principale cause des accidents qui donnent lieu à des réclamations, c'est—croyons-nous—l'absence de diagnostic, ou tout au moins un diagnostic insuffisant. L'un des instruments de diagnostic les plus utiles dont nous disposions, c'est, sans contredit, la radiographie. On réduit donc considérablement les risques en faisant au préalable, chaque fois que c'est indiqué, un nombre suffisant de radiographies et en les interprétant judicieusement. Lorsque l'interprétation laisse quelque doute, on ne doit jamais hésiter à appeler en consultation un confrère ou, au besoin, un radiologiste.

Dans un diagnostic, comme en toute chose d'ailleurs, il y a toujours ce qu'on voit et ce qu'on ne voit pas. Quand un patient se présente et se plaint qu'il a mal aux dents, il est généralement facile de repérer la dent malade. C'est ce qu'on voit. Ce qu'on ne voit pas toujours, c'est l'état général de la bouche. Il arrive souvent que la bouche accuse un manque d'hygiène tel que toute intervention présente de graves dangers de complications. Le risque est naturellement beaucoup plus grand lorsqu'un patient souffre, par exemple, d'angine de Vincent, de gingivite, de pyorrhée alvéolaire, d'oedème, ou s'il fait de la température, ou s'il présente des plaies syphilitiques, certaines excroissances d'un caractère douteux ou quelque autre anomalie. Ce qu'on ne voit pas surtout, c'est l'état général du patient. Le dentiste, si limité que soit son champ d'opération, ne doit jamais perdre de vue que son intervention peut avoir des répercussions sur l'ensemble du système du patient. Il importe donc qu'il se rende compte, dans la mesure du possible, par l'observation des symptômes extérieurs et en posant certaines questions, de l'état physiologique et de l'état pathologique du patient. Si celui-ci est hypertendu ou hypotendu, s'il a des troubles respiratoires ou circulatoires, s'il souffre du coeur, s'il est diabétique, syphilitique, hémophile, et s'il est sous les soins d'un médecin, il convient de prendre des précautions particulières.

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# *IVe Congrès Dentaire de la Fédération Odontologique Latino-Américaine*

JULES THEBAUD, D.D.S., M.Sc.D., Port au Prince, Haïti.

La Fédération Dentaire Latino Américaine prit naissance au Chili en 1917.

Le désir de se connaître, de se rapprocher et de s'unir a gagné progressivement les différents groupements professionnels qui militent dans les vingt républiques de l'Amérique Latine dont la langue espagnole constitue la base essentielle des négociations et des rapports; sauf au Brésil où la langue officielle est le Portugais et en Haïti où la langue officielle est le français.

Maintenant qu'à la question de langue et de culture se sont ajoutées toute une série de considérations d'ordre économique, juridique et politique, l'esprit Panaméricain préside à tous les actes internationaux de l'Amérique Latine; et ce même idéal

Panaméricain qui conduisit les débats à la dernière conférence de Lima vient de présider en maître sur un autre terrain, celui de la Science dentaire, au cours d'un récent Congrès Dentaire réunissant les représentants des vingt républiques Latino Américaines.

Le 1er Congrès de cette Fédération eut lieu à Montevideo, le second à Buenos Aires en 1925 et le 3e à Rio de Janeiro en 1929. Le 4e, le dernier en date, celui dont je veux signaler ici les grandes lignes, fut célébré à La Havane, du 4 au 11 février, sous les auspices du Gouvernement Cubain et avec le concours moral et scientifique de la Faculté d'Odontologie de La Havane, de la Fédération Dentaire de Cuba et de l'Institut Odontologique National.

Les Sessions de cette Assemblée se sont déroulées dans le local de l'Académie des Sciences Médicales, sous la présidence du Dr. José Maria Reposo, assisté des Représentants de plusieurs nations Latino Américaines.

Ce Congrès qui devait avoir lieu en 1932 à La Havane n'avait pu se réunir en raison des troubles civils de cette époque à Cuba.

DELEGATIONS.—De nombreuses délégations étrangères représentaient leur pays à cette importante Assise Internationale.

Le *Mexique* était représenté par les Drs. Jose A. Escamilla, Raphael Ferriz, Ernesto Leon, Carlos Cruz, Guillemo Alvarez, Sergio Varela, Carlos M. Paz, Antonio Guerrero, Ignacio Aguilar.

L'*Equateur* par le Dr. Manuel Garcia.

Le *Honduras* par les Drs. Lisandro Calvez, Fernando Marichal et Wilfrido Ravineau.

*Santo Domingo* par les Drs. Jose Enrique Aybar, Luis D. Santamaria, Salvador A. Cocco et Manuel Santamaria.

Le *Pérou* par le Dr. Arturo Rojas.

*Le Salvador* par les Drs. Jose Dolores Corpeno et Teodore C. Miranda.

La *Colombie* par les Drs. Jorge Gonzalez Ezquerra, Leonardo Luque Pena et Marcelino Luque.

*Haïti* par les Drs. Jules Thébaud, André Holly, Maxime Roumain, Paul Séjourné et Edouard Denis.

Le *Paraguay* par le Dr. Oswaldo Colon Arangurem.

Le *Costa Rica* par les Drs. Roberto Jimenez Ortiz, Roberto Chartier Zamora, Jose Luis Esquivel Cooper.

Le *Brésil* par le Dr. Agnello Cerqueira et le Secrétaire de la Légation du Brésil.

La *Bolivie* par le Dr. René Selva Lanura.

Le *Nicaragua* par les Drs. Elpido Aguero Medrana et le consul Général Mr. Francisco A. Larbero.

*Cuba* par les Drs. Jose Maria Reposo Ruiz, Alfredo Sainz Barcena, Ramon Moller et Alberto Colon Silva.

L'*Espagne* par deux Délégués.

Le *Guatemala* par un Délégué.

TRAVAUX SCIENTIFIQUES.—Parmi les importants travaux présentés et discutés on peut noter:

"Les avantages de la couronne en porcelaine et les inconvénients rencontrés au cours de sa confection" par Julius A. Kerpel.

"Modification de la forme anatomique des molaires pour les travaux en vulcanite" par le Dr. H. Hurlong de Philadelphie.

"Variations dans la technique de la prise des empreintes" par le Dr. H. Hurlong.

"Le métabolisme normal des cellules de certaines glandes endocrines et leur équilibre biologique" par le Dr. A. Ruiz Milares.

"La Science Dentaire et l'Etude de la Vitamine C" par le Dr. Arturo Pacheco.

"Nouvelle Méthode pour la stabilisation des dentiers complets inférieurs" par le Dr. Martinez.

"Nouvelle technique d'anesthésie régionale (2e et 3e divisions)" par le Dr. Varela.

"Thérapeutique recommandée dans les cas de Carie de 3e degré" par le Dr. Agnello Cerqueira.

PARTICIPATION HAITIENNE.—a) Exposition des travaux faits à l'Ecole Dentaire de Port au Prince (Haïti).

Stand sous le contrôle des Drs. A. Holly et M. Roumain.

b) Démonstration d'une nouvelle méthode de suture de la gencive après curetage radical dans les cas de Pyorrhée alvéolaire par le Dr. J. Thébaud.

Sur la demande de plusieurs congressistes et sur l'invitation du Doyen de la Faculté Dentaire de La Havane, le Dr. Biada, une seconde démonstration fut donnée par le Dr. Thébaud le lundi 13 février au local de l'Ecole Dentaire.

COMITE DES CHEFS DE DELEGATIONS.—Un comité des chefs des différentes Délégations s'est réuni en quatre fois, de neuf heures du soir à minuit, dans une des salles du Capitol de La Havane.

Les travaux de ce comité se firent à huis clos. Au cours de ces séances dans lesquelles prédominait une forte majorité il a été décidé en résumé:

1o.—Que chaque Comité National des Pays de l'Amérique Latine devait faire de son mieux pour porter son Gouvernement à développer d'une façon plus intensive, l'hygiène Dentaire Publique.

2o.—Que chaque Comité observe soigneusement le développement donné à l'Assistance Médico Sociale de façon à arriver à y annexer un programme adéquat d'Assistance Dentaire, surtout pour ce qui a trait au problème de l'Alimentation, de la Nutrition et de la Prophylaxie bucco-dentaire dans les écoles rurales et urbaines.

3o.—Qu'un effort soit fait dans chaque pays pour que des soins dentaires soient accordés aux mères de familles pendant les périodes pré-natale et post-natale.

4o.—Qu'un effort soit fait dans le but de rapprocher les programmes d'études dans les différentes Facultés Dentaires Latino-Américaines d'une façon uniforme.

5o.—Que différentes études soient faites dans chaque pays, dans le but de reviser rationnellement le code professionnel du Corps Dentaire.

6o.—Qu'il soit envisagé d'ici le prochain Congrès d'annexer à cette Fédération des groupes de professionnels de race latine vivant aux Etats Unis et au Canada.

7o.—Qu'une tentative soit faite pour faciliter un échange de professionnels dans certains cas (guerre, sinistre etc.)

8o.—Que l'étude de la pyorrhée soit cliniquement plus approfondie. Un prix sera offert au prochain Congrès à l'Etude qui sera traitée de la façon la plus scientifique.

RADIO ET DIVERS. Pendant toute la durée du Congrès des causeries sur l'Hygiène Dentaire ont été prononcées tous les jours de neuf heures à midi au poste de la C.M.W., grâce à un arrangement fait au préalable avec cette dernière station. Ces causeries ont été entendues dans toutes les écoles de la République; de même que le compte rendu des différentes Sessions était radiodiffusé à la fin de chaque séance donnée à l'Académie des Sciences.

La séance de clôture a été un fait unique dans les annales des Congrès Dentaires Internationaux tant par la facture des brillantes allocutions précédées des hymnes nationaux de chaque pays que par l'assistance qui était des plus choisies.

ACTIVITES SOCIALES.—En dehors du banquet d'ouverture, plusieurs réceptions ont été organisées en l'honneur des membres du Congrès:

Représentation théatrale spéciale à la "Comedia", 5 à 7 à la "Baccardi";

Réception à la Résidence privée de Mr. et Mme Reposo à Santos Suarez;

Lunch à la "Tropical". Et finalement le banquet de clôture à l'Hôtel Sevilla.

DELEGATIONS MILITAIRES.—Parmi les Délégués, on pouvait remarquer la présence de plusieurs dentistes de l'Armée et de la Marine Cubaine et quelques autres militaires dont deux du Mexique, un de El Salvador, le lieutenant Edouard Denis de la Garde d'Haïti et le capitaine Santamaria de l'Armée Dominicaine.

CONCLUSION.—Au lieu des démonstrations pratiques, les travaux furent présentés de préférence sous forme de conférences écrites suivies de discussions sur les thèmes présentés.

Les démonstrations pratiques ainsi que les cliniques de table ont occupé un cadre plutôt restreint dans le Programme.

En terminant ce rapport, il est bon de faire remarquer que si la Science Dentaire ne s'est pas développée en Amérique Centrale et en Amérique du Sud d'une façon aussi intense qu'en Amérique du Nord à l'entrée du siècle, elle a cependant subi un essor considérable dans ce pays, un peu après la grande guerre, les gouvernements de ces nations ayant compris toute l'importance et les résultats bienfaisants qui découlent des réalisations obtenues en Art dentaire, dans le champ de l'Assistance Publique.

Aujourd'hui les Instituts dentaires sont très bien pourvus, les programmes d'Hygiène Dentaire ont subi un complet développement et à la tête de ces organisations se trouvent des hommes de science remarquables.

Parmi tant de célébrités, je puis citer en exemple, le Dr. J. M. Reposo, Député de La Havane à qui nous devons la réalisation complète de ce Congrès dans tous les détails de son programme. Avec son tact et son énergie, son expérience professionnelle et son savoir, il peut figurer parmi les leaders de la profession dentaire dans les plus grandes nations du monde. Et c'est grâce à des éléments de ce genre que la Profession dentaire en Amérique Latine pourra avant longtemps faire corps avec toute la Dentisterie Nord Américaine.

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# *Doit-on Faire l'Extraction d'une Dent Chez un Patient Qui Souffre d'Infection de Vincent? Pourquoi?*

YVES LAFLEUR, D.D.S.

Il faut d'abord distinguer entre l'infection de Vincent et l'angine de Vincent. Entre parenthèses, l'infection de Vincent est aussi connue sous plusieurs autres noms, principalement: trench mouth, stomatite ulcéromembraneuse et même gingivite ulcéromembraneuse (Mead, Diseases of the mouth, p. 426, 515).

L'angine de Vincent est une inflammation pseudomembraneuse des tissus buccaux, accompagnée d'une inflammation du pharynx et des tissus annexes (amygdales) ainsi que d'un gonflement des glandes lymphatiques cervicales. C'est une maladie infectieuse très contagieuse.

L'infection de Vincent ou stomatite ulcéromembraneuse, elle-aussi infectieuse et contagieuse, s'attaque seulement aux tissus gingivaux, et à la muqueuse buccale en général, sans extension au pharynx.

Les deux maladies sont caractérisées par des ulcérations particulières, dans lesquelles on trouve des spirochètes de Vincent et des bacilles fusiformes.

La seule et unique cause de l'angine de Vincent est une cause microbienne; elle est causée par la présence à l'état virulent du bacille fusiforme et du spirochète de Vincent.

La cause principale de l'infection de Vincent est la malpropreté habituelle de la bouche qui favorise un certain développement à l'état latent du spirochète et du bacille fusiforme. Cependant, à cause de la puissance contagieuse et infectieuse de ces microbes, il peut arriver que des bouches relativement propres et n'ayant qu'une légère irritation gingivale, puissent être atteintes de l'infection de Vincent.

Somme toute, d'après les auteurs les plus haut cotés, il ne semble pas exister une différence très marquée entre l'infection de Vincent et l'angine de Vincent. L'étiologie en est pratiquement la même, les symptômes, à peu près identiques, varient surtout par leurs manifestations légères ou violentes. La différence réside surtout dans la localisation de la maladie. Alors que l'infection de Vincent est plutôt confinée aux tissus buccaux, l'angine de Vincent, elle, s'attaque en même temps au pharynx et aux parties annexes.

Lorsqu'il s'agit de faire l'extraction d'une ou plusieurs dents chez un patient souffrant d'infection de Vincent ou stomatite ulcéromembraneuse, les auteurs consultés semblent tous d'accord pour contre-indiquer toutes opérations dans les circonstances. Et voici en résumé les motifs qu'ils invoquent.

Dans une bouche où l'infection est déjà bien avancée, si on va produire une plaie de plus, (il y en a déjà suffisamment, à cause des ulcérations), cela va permettre une prolifération encore plus considérable des bactéries infectieuses. Comme résultat, les microbes vont devenir plus virulents, infecter davantage les tissus buccaux et même se répandre dans les parties annexes. Il pourrait même arriver que l'infection de Vincent se transforme rapidement en une angine de Vincent, à caractère très virulent.

De plus le traumatisme produit par l'extraction pourrait provoquer une infection systémique, en ouvrant la voie de la circulation sanguine aux bactéries.

Alors, comment soulager ce malade, atteint de l'infection de Vincent, qui souffre en même temps d'un atroce mal de dents? Etant admis que non seulement ce n'est pas prudent mais même dangereux d'opérer, il ne saurait être question d'extraire la dent malade. Mais il faudra tout de même trouver moyen de calmer les douleurs du patient. On pourra le faire par l'emploi d'une médication interne, soit en prescrivant des sédatifs du genre "barbiturique", tels que Allonal, Dial, Nembutal, etc., ou encore avec des injections intramusculaires ou hypodermiques de médicaments appropriés (Dial, Cibalgine ou autres produits semblables, Sédol et même morphine). Il faudra essayer d'instaurer immédiatement le traitement approprié pour lutter sans retard contre l'infection de Vincent. Dès que la maladie aura diminué d'intensité, qu'il n'y aura plus de danger de répandre l'infection, on pourra procéder à l'extraction de la dent malade.

Il serait peut-être à propos de résumer, en terminant, les divers modes de traitements de la stomatite ulcéromembraneuse: 1- Les médicaments spécifiques et bactéricides; dans cette classe nous avons toutes les préparations arsénicales telles que Néoarsphénamine, Sulfarsénol, Néosalvarsan pour usage dentaire, etc., 2- Les caustiques: nitrate d'argent, phénol, acide trichloracétique. A cause de leurs propriétés escharrotiques, ces médicaments caustiques sont peu usités et peu recommandables. 3- Les agents chimiques qui libèrent de l'oxygène à l'état naissant: peroxyde d'hydrogène, perborate de soude, permanganate de potasse.

Pour l'angine de Vincent proprement dite, on conseille tous les médicaments employés pour combattre l'infection de Vincent ou stomatite ulcéromembraneuse, accompagnés presque nécessairement d'injections de Néosalvarsan, qui devront être données en coopération avec le médecin.

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